SEQUENCE LISTING

<110> INHIBRX LP
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Willis, Katelyn M.
Deveraux, Quinn
Eckelman, Brendan P.

<120> MULTIVALENT AND MULTISPECIFIC GITR-BINDING FUSION PROTEINS

<130> INHI-022/001WO

<150> US 62/195,822
<151> 2015-07-23

<160> 150

<170> PatentIn version 3.5

<210> 1
<211> 218
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<213> Artificial Sequence

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<400> 1

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

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
20 25 30

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
35 40 45

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
50 55 60

```
Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
65                  70                  75                  80

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
                85                  90                  95

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
            100                 105                 110

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
        115                 120                 125

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

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
145                 150                 155                 160

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
                165                 170                 175

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
            180                 185                 190

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
        195                 200                 205

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    210                 215
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<210> 2
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<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 2

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


Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
            20                  25                  30


Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp
        35                  40                  45


Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr
    50                  55                  60


Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
65                  70                  75                  80


Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu
                85                  90                  95


Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
            100                 105                 110


Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys
        115                 120                 125


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


Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
145                 150                 155                 160


Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
                165                 170                 175


Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser
```

180 185 190

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
195 200 205

Leu Ser Leu Ser Pro Gly Lys
210 215

<210> 3
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<213> Artificial Sequence

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<400> 3

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

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
35 40 45

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln
100 105 110

```
Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
        115                 120                 125


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


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


Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu
                165                 170                 175


Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
            180                 185                 190


Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
        195                 200                 205


Lys Ser Leu Ser Leu Ser Pro Gly Lys
    210                 215
```

<210> 4
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 4

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


Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
            20                  25                  30


Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Lys Trp
```

```
        35                  40                  45

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
    50                  55                  60

Glu Gln Tyr Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Leu
65                  70                  75                  80

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
                85                  90                  95

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly
            100                 105                 110

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
        115                 120                 125

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

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Ser Gly Gln Pro Glu Asn
145                 150                 155                 160

Asn Tyr Asn Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe
                165                 170                 175

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
            180                 185                 190

Ile Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Arg Phe Thr
        195                 200                 205

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    210                 215
```

<210> 5

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

<220>
<223> chemically synthesized

<400> 5

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


Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
            20                  25                  30


Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp
        35                  40                  45


Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
    50                  55                  60


Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
65                  70                  75                  80


His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
                85                  90                  95


Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
            100                 105                 110


Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu
        115                 120                 125


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


Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
145                 150                 155                 160
```

```
Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
                165                 170                 175


Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn
            180                 185                 190


Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
        195                 200                 205


Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
    210                 215
```

<210> 6
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 6

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


Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
            20                  25                  30


Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp
        35                  40                  45


Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
    50                  55                  60


Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
65                  70                  75                  80


His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
```

85 90 95

Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
100 105 110

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu
115 120 125

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

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
145 150 155 160

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
165 170 175

Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn
180 185 190

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
195 200 205

Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
210 215

<210> 7
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 7

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys
1 5 10

<210> 8
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<212> PRT
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<220>
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<400> 8

Asp Lys Thr His Thr Cys Pro Pro Cys
1 5

<210> 9
<211> 11
<212> PRT
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<220>
<223> chemically synthesized

<400> 9

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys
1 5 10

<210> 10
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 10

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly
1 5 10

<210> 11
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 11

Gly Gln Gly Thr Leu Val Thr Val Glu Pro Gly Gly
1   5   10

<210> 12
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 12

Gly Gly Ser Gly Gly Ser
1   5

<210> 13
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 13

Gly Gly Ser Gly Gly Ser Gly Gly Ser
1   5

<210> 14
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 14

Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser

1 5 10

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

<220>
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<400> 15

Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser
1 5 10 15

<210> 16
<211> 4
<212> PRT
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<220>
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<400> 16

Gly Gly Gly Gly
1

<210> 17
<211> 5
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<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 17

Gly Gly Gly Gly Gly
1 5

<210> 18
<211> 6
<212> PRT

<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 18

Gly Gly Gly Gly Gly Gly
1 5

<210> 19
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<220>
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<222> (10)..(10)
<223> Xaa can be any naturally occurring amino acid

<400> 19

Gln Val Gln Leu Gln Glu Ser Gly Gly Xaa Leu Val Gln Ser Gly Gly
1 5 10 15

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

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

Ala Val Met Ser Ser Gly Ser Pro Lys Tyr Ala Asp Ser Val Lys Gly
50 55 60

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

Met Asp Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Tyr Ala

85 90 95

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

Gly Thr Gln Val Thr Val Ser Ser
115 120

<210> 20
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 20

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

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

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

Ala Ala Phe Thr Gly Gly Ser Thr Met Asn Tyr Ala Ser Ser Val Lys
50 55 60

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

Gln Met Thr Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn
85 90 95

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

```
Gln Gly Thr Gln Val Thr Val Ser Ser
        115                 120


<210>  21
<211>  121
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  21

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


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


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


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


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


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


Ala Glu Val Asn Glu Gly Trp Asn Ala Asp Tyr Tyr Asp Val Trp Gly
            100                 105                 110


Gln Gly Thr Gln Val Thr Val Ser Ser
        115                 120


<210>  22
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<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 22

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


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


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


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


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


Gln Met Asp Gly Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95


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


Gln Gly Thr Gln Val Thr Val Ser Ser
        115                 120
```

<210> 23
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 23

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Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                  10                  15


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


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


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


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


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


Thr Ser Trp Gly Ser Pro Ser Lys Val Tyr Trp Gly Gln Gly Thr Gln
            100                 105                 110


Ala Thr Val Ser Ser
        115
```

<210> 24
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 24

```
Gln Val Gln Leu Gln 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 Ser Val Phe Ser Ile Asp
            20                  25                  30


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


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


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


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


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


Gln Gly Thr Gln Val Thr Val Ser
        115                 120
```

<210> 25
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 25

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


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


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

35 40 45

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

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

Met His Ser Pro Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn Ala
85 90 95

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

Gly Thr Gln Val Thr Val Ser
115

<210> 26
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 26

Gln Val Gln Leu Gln 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 Ser Val Phe Ser Ile Asp
20 25 30

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

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

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


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


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


Gln Gly Thr Gln Val Thr Val Ser
        115                 120
```

<210> 27
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 27

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


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


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


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


Phe Thr Ile Ser Arg Ala Asn Ala Pro Asn Thr Val His Leu Arg Met
65                  70                  75                  80


Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn Ala Ala
```

85 90 95

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

Thr Gln Val Thr Val Ser
115

<210> 28
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 28

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

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

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

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

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

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

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

Gln Gly Thr Gln Val Thr Val Ser
        115   120

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

<220>
<223> chemically synthesized

<400> 29

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1   5   10   15

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

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

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

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

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

Ala Glu Val Asn Glu Gly Trp Asn Ala Asp Tyr Tyr Asp Val Trp Gly
            100   105   110

Gln Gly Thr Gln Val Thr Val Ser
        115   120

<210> 30

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

<220>
<223> chemically synthesized

<400> 30

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


Ser Leu Arg Leu Ser Cys Ala Ala Ser Arg Ser Ile Ala Ser Ile Asn
            20                  25                  30


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


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


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


Gln Met Asn Asp Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Gly Glu Leu Arg Asp Asp Ser Asn Gly Tyr Leu His Tyr Trp Gly Gln
            100                 105                 110


Gly Thr Gln Val Thr Val Ser
        115
```

<210> 31
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 31

```
Gln Val Gln Leu Gln 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 Ser Val Phe Ser Ile Asp
            20                  25                  30


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


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


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


Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn
                85                  90                  95


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


Gln Gly Thr Gln Val Thr Val Ser
        115                 120
```

<210> 32
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 32

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

```
Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Ser Ile Phe Ser Ile Asp
            20                  25                  30

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

Ala Val His Ser Gly Ser Ser Thr Asn Tyr Gly Asp Ser Val Lys Gly
    50                  55                  60

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

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

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

Gly Thr Gln Val Thr Val Ser
        115
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<210> 33
<211> 120
<212> PRT
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<220>
<223> chemically synthesized

<400> 33

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

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

Ser Met Ser Trp Phe Arg Gln Gly Pro Gly Asn Glu Arg Glu Leu Val
```

35 40 45

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

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

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

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

Gln Gly Thr Gln Val Thr Val Ser
115 120

<210> 34
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 34

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Glu
1 5 10 15

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

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

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

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


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


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


Gln Gly Thr Gln Val Thr Val Ser
        115                 120
```

<210> 35
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 35

```
Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


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


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


Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Asn
```

85 90 95

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

Gln Gly Thr Gln Val Thr Val Ser
115 120

<210> 36
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 36

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

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

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

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

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

Gln Gly Thr Leu Val Thr Val Lys Pro
        115   120

<210> 37
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 37

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1   5   10   15

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

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

Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
    50   55   60

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

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

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

Gln Gly Thr Leu Val Thr Val Lys Pro
        115   120

<210> 38

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

<220>
<223> chemically synthesized

<400> 38

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


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


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


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


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


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


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


Gln Gly Thr Leu Val Thr Val Lys Pro
        115                 120
```

<210> 39
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 39

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


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


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


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


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


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


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


Gln Gly Thr Leu Val Thr Val Lys Pro
        115                 120
```

<210> 40
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 40

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

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


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


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


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


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


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


Gln Gly Thr Leu Val Thr Val Lys Pro
        115                 120
```

<210> 41
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 41

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


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


Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
```

35 40 45

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

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

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

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

Gln Gly Thr Leu Val Thr Val Lys Pro
115 120

<210> 42
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 42

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

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

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


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


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


Gln Gly Thr Leu Val Thr Val
        115


<210>  43
<211>  119
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  43

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


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


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


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

85 90 95

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

Gln Gly Thr Leu Val Thr Val
115

<210> 44
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 44

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

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

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

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

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

Gln Gly Thr Leu Val Thr Val
        115

<210> 45
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 45

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1   5   10   15

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

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

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

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

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

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

Gln Gly Thr Leu Val Thr Val
        115

<210> 46

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

<220>
<223> chemically synthesized

<400> 46

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


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


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


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


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


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


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


Gln Gly Thr Leu Val Thr Val
        115
```

<210> 47
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 47

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


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


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


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


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


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


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


Gln Gly Thr Leu Val Thr Val
        115
```

<210> 48
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 48

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

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


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


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


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


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


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


Gln Gly Thr Leu Val Thr Val
        115


<210>  49
<211>  119
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  49

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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

35 40 45

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

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

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

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

Gln Gly Thr Leu Val Thr Val
115

<210> 50
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 50

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Glu Ser Val Lys
50 55 60

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


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


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


Gln Gly Thr Leu Val Thr Val
        115


<210>  51
<211>  119
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  51

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Glu Ser Val Lys
    50                  55                  60


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


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

85 90 95

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

Gln Gly Thr Leu Val Thr Val
115

<210> 52
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 52

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Asp Ser Val Lys
50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val
        115

<210> 53
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 53

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1   5   10   15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Glu Ser Val Lys
    50   55   60

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

Gln Met Asp Gly Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85   90   95

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

Gln Gly Thr Leu Val Thr Val
        115

<210> 54

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

<220>
<223> chemically synthesized

<400> 54

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


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


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


Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Glu Ser Val Lys
    50                  55                  60


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


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


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


Gln Gly Thr Leu Val Thr Val
        115
```

<210> 55
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 55

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


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


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


Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Glu Ser Val Lys
    50                  55                  60


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


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


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


Gln Gly Thr Leu Val Thr Val
        115
```

<210> 56
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 56

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

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


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


Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Glu Ser Val Lys
    50                  55                  60


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


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


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


Gln Gly Thr Leu Val Thr Val
        115


<210>  57
<211>  119
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  57

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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

35 40 45

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Ala Ser Ala Pro
50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val
115

<210> 58
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 58

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Ala Ser Ala Pro
50 55 60

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


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


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


Gln Gly Thr Leu Val Thr Val
        115


<210>  59
<211>  119
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  59

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Ala Ser Ala Pro
    50                  55                  60


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


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

85 90 95

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

Gln Gly Thr Leu Val Thr Val
115

<210> 60
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 60

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Asp Ala Val Lys
50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val
        115

<210> 61
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 61

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1   5   10   15

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

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

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

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

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

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

Gln Gly Thr Leu Val Thr Val
        115

<210> 62

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

<220>
<223> chemically synthesized

<400> 62

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Ala Ser Ala Pro
50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val
115

<210> 63
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 63

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

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

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 64
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 64

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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


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


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


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


Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110


<210>  65
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  65

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


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


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
```

65 70 75 80

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 66
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 66

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

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

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 67
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 67

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


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


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


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


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


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


Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110
```

<210> 68
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 68

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


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


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


Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
    50                  55                  60


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


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


Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110


<210>  69
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  69

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


Gly Met Asp Trp Phe Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
```

35 40 45

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
50 55 60

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

Leu Glu Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Trp Cys
85 90 95

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 70
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 70

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
50 55 60

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

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


Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110


<210>  71
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  71

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
    50                  55                  60


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


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


Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110


<210>  72
```

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

<220>
<223> chemically synthesized

<400> 72

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
50 55 60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 73
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 73

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly

```
1               5                  10                  15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
    50                  55                  60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110
```

<210> 74
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 74

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

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
    50   55   60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100   105   110

<210> 75
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 75

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1   5   10   15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
    50   55   60

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

Leu Gln Met Asp Asn Leu Arg Ala Glu Asp Thr Ala Val Tyr Trp Cys

85 90 95

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 76
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 76

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
50 55 60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 77
<211> 110
<212> PRT

<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 77

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
50 55 60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 78
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 78

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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


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


Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
    50                  55                  60


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


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


Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110


<210>  79
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  79

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1               5                   10                  15


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


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


Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
```

50 55 60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 80
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 80

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ala Ile Gln Ser Gly Gly Ser Trp Thr Ser Tyr Ala Ser Ser Val
50 55 60

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

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

Gln Asn Arg Val Thr Arg Gly Gln Gly Thr Leu Val Thr Val
100 105 110

<210> 81
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 81

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
35 40 45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
50 55 60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
85 90 95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
100 105 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly

```
    130                 135                 140

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe
        275                 280                 285

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
    290                 295                 300

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305                 310                 315                 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
```

325 330 335

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
340 345 350

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
355 360 365

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
370 375 380

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
385 390 395 400

Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
405 410 415

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
420 425 430

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
435 440 445

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
450 455 460

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
465 470 475 480

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
485 490

<210> 82
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 82

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                  10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


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


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160


Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175
```

```
Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe
        275                 280                 285

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
    290                 295                 300

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305                 310                 315                 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
                325                 330                 335

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
            340                 345                 350

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
        355                 360                 365
```

```
Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
    370                 375                 380


Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
385                 390                 395                 400


Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
                405                 410                 415


Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
            420                 425                 430


Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
        435                 440                 445


Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
    450                 455                 460


Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
465                 470                 475                 480


Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
                485                 490


<210>  83
<211>  497
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  83

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
```

```
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
```

```
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
        275                 280                 285

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
    290                 295                 300

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305                 310                 315                 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
                325                 330                 335

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

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
        355                 360                 365

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
    370                 375                 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385                 390                 395                 400

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

405 410 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
420 425 430

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
450 455 460

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
465 470 475 480

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
485 490 495

Lys

<210> 84
<211> 497
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 84

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
35 40 45

```
Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240
```

```
Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
        275                 280                 285

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
    290                 295                 300

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305                 310                 315                 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
                325                 330                 335

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

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
        355                 360                 365

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
    370                 375                 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385                 390                 395                 400

Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
                405                 410                 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
            420                 425                 430
```

```
Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu
        435                 440                 445


Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
    450                 455                 460


Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
465                 470                 475                 480


Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
                485                 490                 495


Lys
```

<210> 85
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 85

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


Leu Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser
```

```
65                  70                  75                  80

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
```

```
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe
        275                 280                 285

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
    290                 295                 300

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305                 310                 315                 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
                325                 330                 335

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
            340                 345                 350

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
        355                 360                 365

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
    370                 375                 380

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
385                 390                 395                 400

Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
                405                 410                 415

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
            420                 425                 430

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
        435                 440                 445

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
```

```
    450                 455                 460

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
465                 470                 475                 480

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
                485                 490
```

<210> 86
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 86

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110
```

```
Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


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


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160


Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175


Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190


Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205


Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220


Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240


Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255


Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270


Thr His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe
        275                 280                 285


Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
    290                 295                 300
```

```
Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305                 310                 315                 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
                325                 330                 335

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
            340                 345                 350

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
        355                 360                 365

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
    370                 375                 380

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
385                 390                 395                 400

Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
                405                 410                 415

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
            420                 425                 430

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
        435                 440                 445

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
    450                 455                 460

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
465                 470                 475                 480

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
                485                 490
```

<210> 87
<211> 497
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 87

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


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


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
```

```
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
        275                 280                 285

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
    290                 295                 300

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305                 310                 315                 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
                325                 330                 335

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
```

```
            340                 345                 350

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
        355                 360                 365

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
    370                 375                 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385                 390                 395                 400

Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
                405                 410                 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
            420                 425                 430

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
    450                 455                 460

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
465                 470                 475                 480

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
                485                 490                 495

Lys
```

<210> 88
<211> 497
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 88

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                  10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


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


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160


Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175
```

```
Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
        275                 280                 285

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
    290                 295                 300

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305                 310                 315                 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
                325                 330                 335

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

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
        355                 360                 365
```

```
Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
    370                 375                 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385                 390                 395                 400

Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
                405                 410                 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
            420                 425                 430

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
    450                 455                 460

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
465                 470                 475                 480

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
                485                 490                 495

Lys
```

<210> 89
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 89

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
```

```
1               5                  10                  15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
```

```
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe
        275                 280                 285

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
    290                 295                 300

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305                 310                 315                 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
                325                 330                 335

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
            340                 345                 350

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
        355                 360                 365

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
    370                 375                 380

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
```

385 390 395 400

Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
405 410 415

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
420 425 430

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
435 440 445

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
450 455 460

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
465 470 475 480

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
485 490

<210> 90
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 90

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
35 40 45

```
Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240
```

```
Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe
        275                 280                 285

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
    290                 295                 300

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305                 310                 315                 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
                325                 330                 335

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
            340                 345                 350

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
        355                 360                 365

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
    370                 375                 380

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
385                 390                 395                 400

Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
                405                 410                 415

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
            420                 425                 430
```

```
Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
        435                 440                 445


Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
    450                 455                 460


Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
465                 470                 475                 480


Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
                485                 490


<210>  91
<211>  497
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  91

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


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

```
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
```

```
        275                 280                 285

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
    290                 295                 300

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305                 310                 315                 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
                325                 330                 335

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

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
        355                 360                 365

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
    370                 375                 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385                 390                 395                 400

Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
                405                 410                 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
            420                 425                 430

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
    450                 455                 460

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
```

465 470 475 480

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
485 490 495

Lys

<210> 92
<211> 497
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 92

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
35 40 45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
50 55 60

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

Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
85 90 95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
100 105 110

```
Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys
            260                 265                 270

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
        275                 280                 285

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
    290                 295                 300
```

```
Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305                 310                 315                 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
                325                 330                 335

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

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
        355                 360                 365

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
    370                 375                 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385                 390                 395                 400

Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
                405                 410                 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
            420                 425                 430

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
    450                 455                 460

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
465                 470                 475                 480

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
                485                 490                 495
```

Lys

<210> 93
<211> 479
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 93

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Ala Ser Ala Pro
50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser Glu
115 120 125

Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly Ser

```
    130                 135                 140

Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp Ala
145                 150                 155                 160

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

Val Leu Ser Gly Ile Ser Ser Ala Lys Tyr Ala Ala Ser Ala Pro Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
        195                 200                 205

Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr Ala
    210                 215                 220

Asp Val Ser Thr Gly Trp Gly Arg Asp Ala His Gly Tyr Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr His
                245                 250                 255

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
            260                 265                 270

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
        275                 280                 285

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
    290                 295                 300

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
305                 310                 315                 320

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
```

325 330 335

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
340 345 350

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
355 360 365

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
370 375 380

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

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
405 410 415

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
420 425 430

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
435 440 445

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
450 455 460

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
465 470 475

<210> 94
<211> 621
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 94

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190
```

```
Val Ser Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Ser Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380
```

```
Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe Leu
                405                 410                 415

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
            420                 425                 430

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
        435                 440                 445

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
    450                 455                 460

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
465                 470                 475                 480

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
                485                 490                 495

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
            500                 505                 510

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
        515                 520                 525

Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
    530                 535                 540

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
545                 550                 555                 560

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
                565                 570                 575
```

```
Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
            580                 585                 590


Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
        595                 600                 605


His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620
```

<210> 95
<211> 621
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 95

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
```

```
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
```

```
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe Leu
                405                 410                 415

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
            420                 425                 430

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
        435                 440                 445

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
    450                 455                 460

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
465                 470                 475                 480

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
```

485 490 495

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
500 505 510

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
515 520 525

Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
530 535 540

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
545 550 555 560

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
565 570 575

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
580 585 590

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
595 600 605

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
610 615 620

<210> 96
<211> 624
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 96

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

```
Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Ser Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400
```

```
His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
                405                 410                 415

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
            420                 425                 430

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
        435                 440                 445

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
    450                 455                 460

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
465                 470                 475                 480

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
                485                 490                 495

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
            500                 505                 510

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
        515                 520                 525

Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
    530                 535                 540

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
545                 550                 555                 560

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
                565                 570                 575

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
            580                 585                 590
```

```
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
        595                 600                 605


Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620


<210>  97
<211>  624
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  97

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
```

```
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
```

```
305                 310                 315                 320

Cys Ala Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
                405                 410                 415

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
            420                 425                 430

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
        435                 440                 445

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
    450                 455                 460

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
465                 470                 475                 480

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
                485                 490                 495

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

500 505 510

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
515 520 525

Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
530 535 540

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
545 550 555 560

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
565 570 575

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
580 585 590

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
595 600 605

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
610 615 620

<210> 98
<211> 621
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 98

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

```
Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220
```

```
Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe Leu
                405                 410                 415
```

```
Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
            420                 425                 430

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
        435                 440                 445

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
    450                 455                 460

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
465                 470                 475                 480

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
                485                 490                 495

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
            500                 505                 510

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
        515                 520                 525

Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
    530                 535                 540

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
545                 550                 555                 560

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
                565                 570                 575

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
            580                 585                 590

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
        595                 600                 605
```

```
His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620


<210>  99
<211>  621
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized

<400>  99

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


Trp Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly
```

```
    130                 135                 140

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
```

```
                325                 330                 335

Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe Leu
                405                 410                 415

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
            420                 425                 430

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
        435                 440                 445

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
    450                 455                 460

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
465                 470                 475                 480

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
                485                 490                 495

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
            500                 505                 510

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
```

515 520 525

Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
530 535 540

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
545 550 555 560

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
565 570 575

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
580 585 590

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
595 600 605

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
610 615 620

<210> 100
<211> 624
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 100

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
35 40 45

```
Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240
```

```
Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
                405                 410                 415

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
            420                 425                 430
```

```
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
        435                 440                 445

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
    450                 455                 460

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
465                 470                 475                 480

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
                485                 490                 495

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
            500                 505                 510

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
        515                 520                 525

Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
    530                 535                 540

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
545                 550                 555                 560

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
                565                 570                 575

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
            580                 585                 590

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
        595                 600                 605

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620
```

<210> 101
<211> 624
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 101

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


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


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
```

```
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ser Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
```

```
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
                405                 410                 415

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
            420                 425                 430

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
        435                 440                 445

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
    450                 455                 460

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
465                 470                 475                 480

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
                485                 490                 495

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
            500                 505                 510

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
        515                 520                 525

Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
```

530 535 540

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
545 550 555 560

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
565 570 575

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
580 585 590

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
595 600 605

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
610 615 620

<210> 102
<211> 621
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 102

Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
20 25 30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
35 40 45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
50 55 60

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

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255
```

```
Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe Leu
                405                 410                 415

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
            420                 425                 430

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
        435                 440                 445
```

```
Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
    450                 455                 460

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
465                 470                 475                 480

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
                485                 490                 495

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
            500                 505                 510

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
        515                 520                 525

Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
    530                 535                 540

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
545                 550                 555                 560

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
                565                 570                 575

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
            580                 585                 590

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
        595                 600                 605

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620
```

<210> 103
<211> 621
<212> PRT

<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 103

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15


Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45


Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60


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


Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95


Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110


Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125


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


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160


Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
```

```
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
```

```
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Gly Gly Pro Ser Val Phe Leu
                405                 410                 415

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
            420                 425                 430

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
        435                 440                 445

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
    450                 455                 460

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
465                 470                 475                 480

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
                485                 490                 495

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
            500                 505                 510

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
        515                 520                 525

Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
    530                 535                 540

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
```

```
545                 550                 555                 560

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
                565                 570                 575

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
            580                 585                 590

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
        595                 600                 605

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620
```

<210> 104
<211> 624
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 104

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

```
Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
            180                 185                 190

Val Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270
```

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Ser Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
                405                 410                 415

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
            420                 425                 430

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
        435                 440                 445

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
    450                 455                 460
```

```
Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
465                 470                 475                 480


Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
                485                 490                 495


Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
            500                 505                 510


Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
        515                 520                 525


Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
    530                 535                 540


Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
545                 550                 555                 560


Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
                565                 570                 575


Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
            580                 585                 590


Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
        595                 600                 605


Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615                 620


<210>  105
<211>  624
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  chemically synthesized
```

<400> 105

```
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                  10                  15

Tyr Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro
            20                  25                  30

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser
        35                  40                  45

Ile Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu
    50                  55                  60

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

Val Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu
                85                  90                  95

Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            100                 105                 110

Cys Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr
        115                 120                 125

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

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly
145                 150                 155                 160

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile
                165                 170                 175

Asp Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
```

```
            180                 185                 190

Val Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val
        195                 200                 205

Lys Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
    210                 215                 220

Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225                 230                 235                 240

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
                245                 250                 255

Gly Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Ser Gly Gly Ser
            260                 265                 270

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Glu Val Gln Pro Gly Gly
        275                 280                 285

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Val Phe Ser Ile Asp
    290                 295                 300

Ala Met Ser Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
305                 310                 315                 320

Cys Leu Ile Thr Gly Gly Arg Thr Thr Tyr Tyr Ala Glu Ser Val Lys
                325                 330                 335

Gly Arg Phe Thr Cys Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu
            340                 345                 350

Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Asn
        355                 360                 365

Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp Gly
```

```
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Lys Pro Gly Gly Gly Gly Asp Lys Thr
385                 390                 395                 400

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
                405                 410                 415

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
            420                 425                 430

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
        435                 440                 445

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
    450                 455                 460

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
465                 470                 475                 480

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
                485                 490                 495

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
            500                 505                 510

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
        515                 520                 525

Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
    530                 535                 540

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
545                 550                 555                 560

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
```

565 570 575

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
580 585 590

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
595 600 605

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
610 615 620

<210> 106
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 106

Gly Ser Val Phe Ser Ile Asp Ala Met
1 5

<210> 107
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 107

Val Met Ser Ser Gly Ser Pro Lys
1 5

<210> 108
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 108

Tyr Ala Asp Val Ala Thr Gly Trp Gly Arg Asp Ala Ser Ala Tyr Trp
1   5   10   15

<210> 109
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 109

Ala Gly Ser Thr Phe Ser Val Asn Ser Met
1   5   10

<210> 110
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 110

Phe Thr Gly Gly Ser Thr Met Asn
1   5

<210> 111
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 111

Asn Ala Glu Val Asn Glu Gly Trp Asn Ala Asp Tyr His Asp Tyr Trp

1 5 10 15

<210> 112
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 112

Ser Gly Ser Ile Phe Ser Ile Asn His Met
1 5 10

<210> 113
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 113

His Ile Thr Gly Gly Ala Ser Thr Lys
1 5

<210> 114
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 114

Asn Ala Glu Val Asn Glu Gly Trp Asn Ala Asp Tyr Tyr Asp Val Trp
1 5 10 15

<210> 115
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 115

Val Leu Asn Gly Ile Ser Ser Ala Lys
1 5

<210> 116
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 116

Tyr Ala Asp Val Ser Thr Gly Trp Gly Arg Asp Ala His Gly Tyr Trp
1 5 10 15

<210> 117
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 117

Ser Gly Asn Ile Phe Ser Ile Asp Ala Met
1 5 10

<210> 118
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 118

Gln Ile Pro Gly Gly
1 5

<210> 119
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 119

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

<210> 120
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 120

Ser Gly Ser Val Phe Ser Ile Asp Ser Met
1 5 10

<210> 121
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 121

Leu Ile Thr Gly Gly Arg Thr Thr Thr
1 5

<210> 122

<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 122

Asn Ala Val Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
1 5 10 15

<210> 123
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 123

Val Ile Asp Gly Val Ser Pro Asn
1 5

<210> 124
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 124

Asn Ala Ala Val Ser Thr Gly Trp Gly Arg Asn Ala Asp Asp Tyr Trp
1 5 10 15

<210> 125
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 125

Ser Gly Ser Val Phe Ser Ile Asp Ser Val
1 5 10

<210> 126
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 126

Asn Ala Ala Leu Ser Thr Gly Trp Gly Arg Asp Ala Ser Ala Tyr Trp
1 5 10 15

<210> 127
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> chemically synthesized

<400> 127

Ala Glu Val Asn Glu Gly Trp Asn Ala Asp Tyr Tyr Asp Val Trp
1 5 10 15

<210> 128
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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