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SEQUENCE LISTING

<110> Micreos Human Health B.V.

<120> A method of treatment of a bacterial infection.

<130> P6054982PCT

<150> 15158880.3
<151> 2015-03-12

<150> EP15158880.3
<151> 2015-03-12

<160> 108

<170> PatentIn version 3.5

<210> 1
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 1

Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1 5 10 15

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

Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
35 40 45

Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
50 55 60

Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65 70 75 80

```
Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
                85                  90                  95

Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
            100                 105                 110

Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
        115                 120                 125

Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
    130                 135                 140

Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145                 150                 155                 160

Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
                165                 170                 175

His Tyr Tyr Asp
            180
```

<210> 2
<211> 141
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 2

```
Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys Lys
1               5                   10                  15

Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met His
            20                  25                  30

Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala Ile
        35                  40                  45
```

```
Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly Gly
    50                  55                  60

Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp Tyr
65                  70                  75                  80

Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys Ala
                85                  90                  95

Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala Pro
            100                 105                 110

His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr Ala
        115                 120                 125

Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly
    130                 135                 140
```

<210> 3
<211> 161
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 3

```
Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1               5                   10                  15

Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
            20                  25                  30

Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
        35                  40                  45
```

```
Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
    50                  55                  60

Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65                  70                  75                  80

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

Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
            100                 105                 110

Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115                 120                 125

Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130                 135                 140

Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145                 150                 155                 160

Lys
```

<210> 4
<211> 145
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 4

```
Met Lys Thr Leu Lys Gln Ala Glu Ser Tyr Ile Lys Ser Lys Val Asn
1               5                   10                  15

Thr Gly Thr Asp Phe Asp Gly Leu Tyr Gly Tyr Gln Cys Met Asp Leu
            20                  25                  30
```

```
Ala Val Asp Tyr Ile Tyr His Val Thr Asp Gly Lys Ile Arg Met Trp
        35                  40                  45

Gly Asn Ala Lys Asp Ala Ile Asn Asn Ser Phe Gly Gly Thr Ala Thr
    50                  55                  60

Val Tyr Lys Asn Tyr Pro Ala Phe Arg Pro Lys Tyr Gly Asp Val Val
65                  70                  75                  80

Val Trp Thr Thr Gly Asn Phe Ala Thr Tyr Gly His Ile Ala Ile Val
                85                  90                  95

Thr Asn Pro Asp Pro Tyr Gly Asp Leu Gln Tyr Val Thr Val Leu Glu
            100                 105                 110

Gln Asn Trp Asn Gly Asn Gly Ile Tyr Lys Thr Glu Leu Ala Thr Ile
        115                 120                 125

Arg Thr His Asp Tyr Thr Gly Ile Thr His Phe Ile Arg Pro Asn Phe
    130                 135                 140

Ala
145
```

<210> 5
<211> 151
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragement

<400> 5

```
Met Gly Leu Pro Ser Pro Lys Lys Arg Lys Pro Thr Ala Ser Glu Val
1               5                   10                  15
```

Ala Ala Trp Ala Lys Arg Met Ile Gly Arg Arg Val Asp Val Asp Gly
20 25 30

Tyr His Gly Ala Gln Cys Trp Asp Leu Pro Asn Tyr Ile Phe Asn Arg
35 40 45

Tyr Trp His Phe Lys Thr Thr Gly Asn Ala Ile Ala Met Ala Trp Tyr
50 55 60

Arg Tyr Pro Lys Gly Phe Lys Phe Tyr Arg Asn Thr Arg Asn Phe Val
65 70 75 80

Pro Lys Pro Gly Asp Met Ala Val Trp Gly Lys Gly Ser Phe Asn Asn
85 90 95

Gly Val Gly His Thr Ala Val Val Ile Gly Pro Ser Thr Lys Ser Tyr
100 105 110

Phe Thr Ser Val Asp Gln Asn Trp Ile Gly Ala Asn Ser Tyr Thr Gly
115 120 125

Ser Pro Gly Ala Lys Ile Lys His Ser Tyr Asn Gly Ile Ser Gly Phe
130 135 140

Val Arg Pro Pro Tyr His Ala
145 150

<210> 6
<211> 147
<212> PRT
<213> Artificial

<220>
<223> Polyppetide fragment

<400> 6

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

```
Trp Ala Ile Asn Leu Ile Gly Ser Gly Val Asp Val Asp Gly Tyr Tyr
            20                  25                  30

Gly Arg Gln Cys Trp Asp Leu Pro Asn Tyr Ile Phe Asn Arg Tyr Trp
        35                  40                  45

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

Pro Glu Gly Phe Lys Val Phe Arg Asn Thr Ser Asp Phe Val Pro Lys
65                  70                  75                  80

Pro Gly Asp Ile Ala Val Trp Thr Gly Gly Asn Tyr Asn Trp Asn Thr
                85                  90                  95

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

Tyr Ser Val Asp Gln Asn Trp Asn Asn Ser Asn Ser Tyr Val Gly Ser
        115                 120                 125

Pro Ala Ala Lys Ile Lys His Ser Tyr Phe Gly Val Thr His Phe Val
    130                 135                 140

Arg Pro Ala
145
```

<210> 7
<211> 165
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 7

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```
Met Ala Lys Thr Gln Ala Glu Ile Asn Lys Arg Leu Asp Ala Tyr Ala
1               5                  10                  15

Lys Gly Thr Val Asp Ser Pro Tyr Arg Ile Lys Lys Ala Thr Ser Tyr
            20                  25                  30

Asp Pro Ser Phe Gly Val Met Glu Ala Gly Ala Ile Asp Ala Asp Gly
        35                  40                  45

Tyr Tyr His Ala Gln Cys Gln Asp Leu Ile Thr Asp Tyr Val Leu Trp
    50                  55                  60

Leu Thr Asp Asn Lys Val Arg Thr Trp Gly Asn Ala Lys Asp Gln Ile
65                  70                  75                  80

Lys Gln Ser Tyr Gly Thr Gly Phe Lys Ile His Glu Asn Lys Pro Ser
                85                  90                  95

Thr Val Pro Lys Lys Gly Trp Ile Ala Val Phe Thr Ser Gly Ser Tyr
            100                 105                 110

Gln Gln Trp Gly His Ile Gly Ile Val Tyr Asp Gly Gly Asn Thr Ser
        115                 120                 125

Thr Phe Thr Ile Leu Glu Gln Asn Trp Asn Gly Tyr Ala Asn Lys Lys
    130                 135                 140

Pro Thr Lys Arg Val Asp Asn Tyr Tyr Gly Leu Thr His Phe Ile Glu
145                 150                 155                 160

Ile Pro Val Lys Ala
                165
```

<210> 8
<211> 128
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 8

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


Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys Ala
            20                  25                  30


Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu His
        35                  40                  45


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


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


Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp Val
                85                  90                  95


Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg Thr
            100                 105                 110


Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile Lys
        115                 120                 125
```

<210> 9
<211> 78
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 9

Ala Pro Lys Ser Lys Pro Ser Lys Ile Lys Thr Thr Trp Asn Trp Gly
1 5 10 15

Gly Lys Phe Thr Ala Asn Ser Thr Ile Lys Val Arg Lys Ser Pro Gly
20 25 30

Leu Lys Gly Ile Val Val Glu Ser Gly Ser Trp Leu Tyr Lys Gly Asn
35 40 45

Tyr Val Pro Phe Asp Gln Val Ile Lys Lys Asp Gly Tyr Trp Trp Ile
50 55 60

Arg Phe Lys Tyr Val Gln Pro Gly Ser Ser Asn Lys His Phe
65 70 75

<210> 10
<211> 92
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 10

Trp Lys Thr Asn Lys Tyr Gly Thr Leu Tyr Lys Ser Glu Ser Ala Ser
1 5 10 15

Phe Thr Pro Asn Thr Asp Ile Ile Thr Arg Thr Thr Gly Pro Phe Arg
20 25 30

Ser Met Pro Gln Ser Gly Val Leu Lys Ala Gly Gln Thr Ile His Tyr
35 40 45

Asp Glu Val Met Lys Gln Asp Gly His Val Trp Val Gly Tyr Thr Gly
50 55 60

Asn Ser Gly Gln Arg Ile Tyr Leu Pro Val Arg Thr Trp Asn Lys Ser
65 70 75 80

Thr Asn Thr Leu Gly Val Leu Trp Gly Thr Ile Lys
85 90

<210> 11
<211> 92
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 11

Tyr Lys Thr Asn Lys Tyr Gly Thr Leu Tyr Lys Ser Glu Ser Ala Ser
1 5 10 15

Phe Thr Ala Asn Thr Asp Ile Ile Thr Arg Leu Thr Gly Pro Phe Arg
20 25 30

Ser Met Pro Gln Ser Gly Val Leu Arg Lys Gly Leu Thr Ile Lys Tyr
35 40 45

Asp Glu Val Met Lys Gln Asp Gly His Val Trp Val Gly Tyr Asn Thr
50 55 60

Asn Ser Gly Lys Arg Val Tyr Leu Pro Val Arg Thr Trp Asn Glu Ser
65 70 75 80

Thr Gly Glu Leu Gly Pro Leu Trp Gly Thr Ile Lys
85 90

<210> 12
<211> 30
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 12

Trp Glu Ala Lys Leu Ala Lys Ala Leu Ala Lys Ala Leu Ala Lys His
1 5 10 15

Leu Ala Lys Ala Leu Ala Lys Ala Leu Lys Ala Cys Glu Ala
20 25 30

<210> 13
<211> 22
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 13

Met Val Thr Val Leu Phe Arg Arg Leu Arg Ile Arg Arg Ala Ser Gly
1 5 10 15

Pro Pro Arg Val Arg Val
20

<210> 14
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 14

Lys Leu Ala Leu Lys Leu Ala Leu Lys Ala Leu Lys Ala Ala Leu Lys
1 5 10 15

Leu Ala

<210> 15
<211> 27

<212> PRT
<213> Artificial

<220>
<223> GALFLGFLGAAGSTMGAWSQPKKKRKV

<400> 15

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

Ala Trp Ser Gln Pro Lys Lys Lys Arg Lys Val
20 25

<210> 16
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 16

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

<210> 17
<211> 21
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 17

Lys Glu Thr Trp Trp Glu Thr Trp Trp Thr Glu Trp Ser Gln Pro Lys
1 5 10 15

Lys Lys Arg Lys Val
20

<210> 18
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 18

Arg Arg Gln Arg Arg Thr Ser Lys Leu Met Lys Arg
1 5 10

<210> 19
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 19

Leu Leu Ile Ile Leu Arg Arg Arg Ile Arg Lys Gln Ala His Ala His
1 5 10 15

Ser Lys

<210> 20
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 20

Arg Arg Trp Trp Arg Arg Trp Arg Arg
1 5

<210> 21
<211> 16

<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment comprises 6 to 15 R residues

<400> 21

Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg
1 5 10 15

<210> 22
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 22

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
1 5 10

<210> 23
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 23

Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5

<210> 24
<211> 27
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 24

Gly Trp Thr Leu Asn Ser Ala Gly Tyr Leu Leu Gly Lys Ile Asn Leu
1 5 10 15

Lys Ala Leu Ala Ala Leu Ala Lys Lys Ile Leu
20 25

<210> 25
<211> 21
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 25

Ala Gly Tyr Leu Leu Gly Lys Ile Asn Leu Lys Ala Leu Ala Ala Leu
1 5 10 15

Ala Lys Lys Ile Leu
20

<210> 26

<400> 26
000

<210> 27
<211> 269
<212> PRT
<213> Artificial Sequence

<220>
<223> Polypeptide fragment

<400> 27

Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1 5 10 15

Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met

```
            20                  25                  30

His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
        35                  40                  45

Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
    50                  55                  60

Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65                  70                  75                  80

Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
                85                  90                  95

Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
            100                 105                 110

Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
        115                 120                 125

Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Gly Lys
    130                 135                 140

Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser Asp Val Lys Gln
145                 150                 155                 160

Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys Ala Thr Asp Trp
                165                 170                 175

Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu His Ala Ser Phe
            180                 185                 190

Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr Lys Gly Pro Trp
        195                 200                 205

Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly Gln Thr Ile Lys
```

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210 215 220

Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp Val Ser Trp Glu
225 230 235 240

Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg Thr Trp Asp Ala
245 250 255

Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile Lys
260 265

<210> 28
<211> 289
<212> PRT
<213> Artificial Sequence

<220>
<223> Polypeptide fragment

<400> 28

Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1 5 10 15

Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
20 25 30

Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
35 40 45

Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
50 55 60

Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65 70 75 80

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

```
Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
            100                 105                 110

Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115                 120                 125

Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130                 135                 140

Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145                 150                 155                 160

Lys Gly Gly Lys Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser
                165                 170                 175

Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys
            180                 185                 190

Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu
        195                 200                 205

His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr
    210                 215                 220

Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly
225                 230                 235                 240

Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp
                245                 250                 255

Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg
            260                 265                 270

Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile
        275                 280                 285
```

Lys

<210> 29
<211> 308
<212> PRT
<213> Artificial Sequence

<220>
<223> Polypeptide fragment

<400> 29

```
Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1               5                   10                  15


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


Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
        35                  40                  45


Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
    50                  55                  60


Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65                  70                  75                  80


Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
                85                  90                  95


Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
            100                 105                 110


Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
        115                 120                 125


Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
```

```
    130                 135                 140

Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145                 150                 155                 160

Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
                165                 170                 175

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

Lys Gln Ser Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln
        195                 200                 205

Ile Val Lys Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr
    210                 215                 220

Lys Ala Glu His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile
225                 230                 235                 240

Thr Arg Tyr Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu
                245                 250                 255

Gln Lys Gly Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly
            260                 265                 270

His Val Trp Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met
        275                 280                 285

Pro Val Arg Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp
    290                 295                 300

Gly Glu Ile Lys
305
```

<210> 30

<211> 326
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 30

```
Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1               5                   10                  15


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


Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
        35                  40                  45


Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
    50                  55                  60


Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65                  70                  75                  80


Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
                85                  90                  95


Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
            100                 105                 110


Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
        115                 120                 125


Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
    130                 135                 140


Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145                 150                 155                 160
```

```
Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
                165                 170                 175

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

Lys Gln Ser Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln
        195                 200                 205

Ile Val Lys Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr
    210                 215                 220

Lys Ala Glu His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile
225                 230                 235                 240

Thr Arg Tyr Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu
                245                 250                 255

Gln Lys Gly Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly
            260                 265                 270

His Val Trp Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met
        275                 280                 285

Pro Val Arg Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp
    290                 295                 300

Gly Glu Ile Lys Glu Leu Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg
305                 310                 315                 320

Arg Met Lys Trp Lys Lys
                325
```

<210> 31
<211> 319
<212> PRT

<213> Artificial

<220>
<223> Polypeptide construct

<400> 31

```
Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1               5                   10                  15


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


Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
        35                  40                  45


Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
    50                  55                  60


Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65                  70                  75                  80


Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
                85                  90                  95


Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
            100                 105                 110


Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
        115                 120                 125


Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
    130                 135                 140


Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145                 150                 155                 160


Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
```

```
                165                 170                 175

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

Lys Gln Ser Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln
        195                 200                 205

Ile Val Lys Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr
    210                 215                 220

Lys Ala Glu His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile
225                 230                 235                 240

Thr Arg Tyr Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu
                245                 250                 255

Gln Lys Gly Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly
            260                 265                 270

His Val Trp Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met
        275                 280                 285

Pro Val Arg Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp
    290                 295                 300

Gly Glu Ile Lys Glu Leu Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg
305                 310                 315
```

<210> 32
<211> 323
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 32

```
Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1               5                   10                  15

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

Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
        35                  40                  45

Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
    50                  55                  60

Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65                  70                  75                  80

Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
                85                  90                  95

Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
            100                 105                 110

Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
        115                 120                 125

Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
    130                 135                 140

Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145                 150                 155                 160

Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
                165                 170                 175

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

```
Lys Gln Ser Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln
        195                 200                 205

Ile Val Lys Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr
    210                 215                 220

Lys Ala Glu His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile
225                 230                 235                 240

Thr Arg Tyr Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu
                245                 250                 255

Gln Lys Gly Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly
            260                 265                 270

His Val Trp Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met
        275                 280                 285

Pro Val Arg Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp
    290                 295                 300

Gly Glu Ile Lys Glu Leu Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
305                 310                 315                 320

Pro Pro Gln
```

<210> 33
<211> 199
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 33

```
Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
```

```
1               5                   10                  15

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

Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
        35                  40                  45

Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
    50                  55                  60

Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65                  70                  75                  80

Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
                85                  90                  95

Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
            100                 105                 110

Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
        115                 120                 125

Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
    130                 135                 140

Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145                 150                 155                 160

Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
                165                 170                 175

His Tyr Tyr Asp Gly Glu Leu Arg Gln Ile Lys Ile Trp Phe Gln Asn
            180                 185                 190

Arg Arg Met Lys Trp Lys Lys
```

195

<210> 34
<211> 192
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 34

Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1 5 10 15

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

Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
35 40 45

Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
50 55 60

Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65 70 75 80

Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
85 90 95

Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala
100 105 110

Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
115 120 125

Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
130 135 140

Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145 150 155 160

Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
165 170 175

His Tyr Tyr Asp Gly Glu Leu Arg Arg Arg Arg Arg Arg Arg Arg Arg
180 185 190

<210> 35
<211> 196
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 35

Met Leu Lys His Ile Tyr Ser Asn His Ile Lys Gly Asn Lys Ile Thr
1 5 10 15

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

Ser Met Thr Pro Ser Gln Tyr Leu Pro Trp Leu Tyr Ala Arg Glu Asn
35 40 45

Asn Gly Thr His Val Asn Gly Trp Ala Ser Val Tyr Ala Asn Arg Asn
50 55 60

Glu Val Leu Trp Tyr His Pro Thr Asp Tyr Val Glu Trp His Cys Gly
65 70 75 80

Asn Gln Trp Ala Asn Ala Asn Leu Ile Gly Phe Glu Val Cys Glu Ser
85 90 95

Tyr Pro Gly Arg Ile Ser Asp Lys Leu Phe Leu Glu Asn Glu Glu Ala

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100 105 110

Thr Leu Lys Val Ala Ala Asp Val Met Lys Ser Tyr Gly Leu Pro Val
115 120 125

Asn Arg Asn Thr Val Arg Leu His Asn Glu Phe Phe Gly Thr Ser Cys
130 135 140

Pro His Arg Ser Trp Asp Leu His Val Gly Lys Gly Glu Pro Tyr Thr
145 150 155 160

Thr Thr Asn Ile Asn Lys Met Lys Asp Tyr Phe Ile Lys Arg Ile Lys
165 170 175

His Tyr Tyr Asp Gly Glu Leu Gly Arg Lys Lys Arg Arg Gln Arg Arg
180 185 190

Arg Pro Pro Gln
195

<210> 36
<211> 307
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 36

Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1 5 10 15

Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
20 25 30

Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
35 40 45

```
Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
    50                  55                  60

Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65                  70                  75                  80

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

Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
            100                 105                 110

Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115                 120                 125

Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130                 135                 140

Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145                 150                 155                 160

Lys Gly Gly Lys Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser
                165                 170                 175

Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys
            180                 185                 190

Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu
        195                 200                 205

His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr
    210                 215                 220

Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly
225                 230                 235                 240
```

```
Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp
                245                 250                 255


Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg
            260                 265                 270


Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile
        275                 280                 285


Lys Glu Leu Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys
    290                 295                 300


Trp Lys Lys
305


<210>  37
<211>  300
<212>  PRT
<213>  Artificial

<220>
<223>  Polypeptide construct

<400>  37

Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1               5                   10                  15


Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
            20                  25                  30


Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
        35                  40                  45


Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
    50                  55                  60


Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
```

```
65                  70                  75                  80

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

Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
            100                 105                 110

Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115                 120                 125

Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130                 135                 140

Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145                 150                 155                 160

Lys Gly Gly Lys Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser
                165                 170                 175

Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys
            180                 185                 190

Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu
        195                 200                 205

His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr
    210                 215                 220

Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly
225                 230                 235                 240

Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp
                245                 250                 255

Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg
```

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260 265 270

Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile
275 280 285

Lys Glu Leu Arg Arg Arg Arg Arg Arg Arg Arg Arg
290 295 300

<210> 38
<211> 304
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 38

Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1 5 10 15

Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
20 25 30

Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
35 40 45

Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
50 55 60

Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65 70 75 80

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

Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
100 105 110

```
Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115                 120                 125


Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130                 135                 140


Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145                 150                 155                 160


Lys Gly Gly Lys Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser
                165                 170                 175


Asp Val Lys Gln Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys
            180                 185                 190


Ala Thr Asp Trp Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu
        195                 200                 205


His Ala Ser Phe Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr
    210                 215                 220


Lys Gly Pro Trp Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly
225                 230                 235                 240


Gln Thr Ile Lys Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp
                245                 250                 255


Val Ser Trp Glu Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg
            260                 265                 270


Thr Trp Asp Ala Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile
        275                 280                 285


Lys Glu Leu Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
    290                 295                 300
```

<210> 39
<211> 179
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 39

```
Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1               5                   10                  15


Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
            20                  25                  30


Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
        35                  40                  45


Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
    50                  55                  60


Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65                  70                  75                  80


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


Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
            100                 105                 110


Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115                 120                 125


Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130                 135                 140


Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
```

145 150 155 160

Lys Glu Leu Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys
165 170 175

Trp Lys Lys

<210> 40
<211> 172
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 40

Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1 5 10 15

Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
20 25 30

Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
35 40 45

Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
50 55 60

Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65 70 75 80

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

Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
100 105 110

Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
        115   120   125

Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
    130   135   140

Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145   150   155   160

Lys Glu Leu Arg Arg Arg Arg Arg Arg Arg Arg Arg
                165   170

<210> 41
<211> 176
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 41

Met Ser Ile Ile Met Glu Val Ala Thr Met Gln Ala Lys Leu Thr Lys
1   5   10   15

Asn Glu Phe Ile Glu Trp Leu Lys Thr Ser Glu Gly Lys Gln Phe Asn
            20   25   30

Val Asp Leu Trp Tyr Gly Phe Gln Cys Phe Asp Tyr Ala Asn Ala Gly
        35   40   45

Trp Lys Val Leu Phe Gly Leu Leu Leu Lys Gly Leu Gly Ala Lys Asp
    50   55   60

Ile Pro Phe Ala Asn Asn Phe Asp Gly Leu Ala Thr Val Tyr Gln Asn
65   70   75   80

Thr Pro Asp Phe Leu Ala Gln Pro Gly Asp Met Val Val Phe Gly Ser

85 90 95

Asn Tyr Gly Ala Gly Tyr Gly His Val Ala Trp Val Ile Glu Ala Thr
100 105 110

Leu Asp Tyr Ile Ile Val Tyr Glu Gln Asn Trp Leu Gly Gly Gly Trp
115 120 125

Thr Asp Gly Ile Glu Gln Pro Gly Trp Gly Trp Glu Lys Val Thr Arg
130 135 140

Arg Gln His Ala Tyr Asp Phe Pro Met Trp Phe Ile Arg Pro Asn Phe
145 150 155 160

Lys Glu Leu Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
165 170 175

<210> 42
<211> 287
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 42

Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1 5 10 15

Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met
20 25 30

His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
35 40 45

Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
50 55 60

```
Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65                  70                  75                  80

Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
                85                  90                  95

Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
            100                 105                 110

Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
        115                 120                 125

Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Gly Lys
    130                 135                 140

Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser Asp Val Lys Gln
145                 150                 155                 160

Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys Ala Thr Asp Trp
                165                 170                 175

Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu His Ala Ser Phe
            180                 185                 190

Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr Lys Gly Pro Trp
        195                 200                 205

Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly Gln Thr Ile Lys
    210                 215                 220

Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp Val Ser Trp Glu
225                 230                 235                 240

Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg Thr Trp Asp Ala
                245                 250                 255
```

```
Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile Lys Glu Leu Arg
            260                 265                 270


Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
        275                 280                 285


<210>  43
<211>  280
<212>  PRT
<213>  Artificial

<220>
<223>  Polypeptide construct

<400>  43

Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1               5                   10                  15


Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met
            20                  25                  30


His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
        35                  40                  45


Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
    50                  55                  60


Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65                  70                  75                  80


Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
                85                  90                  95


Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
            100                 105                 110


Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
```

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115 120 125

Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Gly Lys
130 135 140

Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser Asp Val Lys Gln
145 150 155 160

Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys Ala Thr Asp Trp
165 170 175

Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu His Ala Ser Phe
180 185 190

Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr Lys Gly Pro Trp
195 200 205

Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly Gln Thr Ile Lys
210 215 220

Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp Val Ser Trp Glu
225 230 235 240

Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg Thr Trp Asp Ala
245 250 255

Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile Lys Glu Leu Arg
260 265 270

Arg Arg Arg Arg Arg Arg Arg Arg
275 280

<210> 44
<211> 284
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 44

```
Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1               5                  10                  15


Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met
            20                  25                  30


His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
        35                  40                  45


Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
    50                  55                  60


Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65                  70                  75                  80


Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
                85                  90                  95


Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
            100                 105                 110


Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
        115                 120                 125


Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Gly Lys
    130                 135                 140


Leu Glu Val Ser Lys Ala Ala Thr Ile Lys Gln Ser Asp Val Lys Gln
145                 150                 155                 160


Glu Val Lys Lys Gln Glu Ala Lys Gln Ile Val Lys Ala Thr Asp Trp
                165                 170                 175
```

```
Lys Gln Asn Lys Asp Gly Ile Trp Tyr Lys Ala Glu His Ala Ser Phe
            180                 185                 190


Thr Val Thr Ala Pro Glu Gly Ile Ile Thr Arg Tyr Lys Gly Pro Trp
        195                 200                 205


Thr Gly His Pro Gln Ala Gly Val Leu Gln Lys Gly Gln Thr Ile Lys
    210                 215                 220


Tyr Asp Glu Val Gln Lys Phe Asp Gly His Val Trp Val Ser Trp Glu
225                 230                 235                 240


Thr Phe Glu Gly Glu Thr Val Tyr Met Pro Val Arg Thr Trp Asp Ala
                245                 250                 255


Lys Thr Gly Lys Val Gly Lys Leu Trp Gly Glu Ile Lys Glu Leu Gly
            260                 265                 270


Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
        275                 280


<210>  45
<211>  160
<212>  PRT
<213>  Artificial

<220>
<223>  Polypeptide construct

<400>  45

Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1               5                   10                  15


Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met
            20                  25                  30


His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
```

35 40 45

Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
50 55 60

Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65 70 75 80

Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
85 90 95

Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
100 105 110

Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
115 120 125

Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Glu Leu
130 135 140

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
145 150 155 160

<210> 46
<211> 153
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 46

Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1 5 10 15

Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met
20 25 30

```
His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
        35                  40                  45


Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
    50                  55                  60


Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65                  70                  75                  80


Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
                85                  90                  95


Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
            100                 105                 110


Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
        115                 120                 125


Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Glu Leu
    130                 135                 140


Arg Arg Arg Arg Arg Arg Arg Arg Arg
145                 150
```

<210> 47
<211> 157
<212> PRT
<213> Artificial

<220>
<223> Polypeptide construct

<400> 47

```
Met Ala Ala Thr His Glu His Ser Ala Gln Trp Leu Asn Asn Tyr Lys
1               5                   10                  15


Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met
```

20 25 30

His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly Thr Pro Val Lys Ala
35 40 45

Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly
50 55 60

Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Trp
65 70 75 80

Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys
85 90 95

Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala
100 105 110

Pro His Leu His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr
115 120 125

Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala Gly Tyr Gly Glu Leu
130 135 140

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
145 150 155

<210> 48

<400> 48
000

<210> 49

<400> 49
000

<210> 50
<211> 981
<212> DNA

<213> Artificial

<220>
<223> Polynucleotide

<400> 50
atgctgaaac atatttactc caaccacatt aaaggtaaca aaatcacagc ccctaaaccg 60

tcaattcagg gcgtggtgat ccacaacgat tatggctcaa tgacccttc acagtacctg 120

ccttggctgt acgctcgcga aaacaacggt acacatgtga atggctgggc ctcagtgtat 180

gccaatcgca acgaggtgct gtggtatcat cctacagact acgtggaatg gcactgcggc 240

aaccaatggg ccaacgccaa cctgatcggc tttgaagttt gcgaatcata tcctggtcgc 300

atctcagaca aactgtttct ggaaaacgag gaagccacac tgaaagtagc tgccgacgtg 360

atgaaatcgt atggcctgcc tgtgaatcgc aacacagtgc gcctgcacaa cgaatttttc 420

ggtacatcat gccctcatcg ttcatgggac ctgcacgtgg gcaaaggcga gccttatacc 480

acaacaaata tcaataaaat gaaagattat ttcattaaac ggattaaaca ctactatgac 540

ggtggcaaac tggaagttag caaagcagcc accattaaac agagtgatgt taaacaagaa 600

gtgaaaaaac aagaggccaa acaaattgtg aaagccaccg attggaaaca gaacaaagat 660

ggcatctggt ataaagcaga acatgccagc tttaccgtga ccgcaccgga aggcattatt 720

acccgttata aaggtccgtg gaccggtcat ccgcaggcag gcgtgctgca gaaaggtcag 780

accatcaaat atgatgaagt gcagaaattt gatggccatg tttgggttag ctgggaaacc 840

tttgaaggtg aaaccgttta tatgccggtt cgtacctggg atgcaaaaac cggtaaagtt 900

ggtaaactgt ggggtgagat taaagagctc cgccagatca aaatttggtt tcagaatcgt 960

cgcatgaaat ggaaaaaata a 981

<210> 51
<211> 960
<212> DNA
<213> Artificial

<220>
<223> Polynucleotide

<400> 51
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ccttggctgt acgctcgcga aaacaacggt acacatgtga atggctgggc ctcagtgtat 180

gccaatcgca acgaggtgct gtggtatcat cctacagact acgtggaatg gcactgcggc 240

aaccaatggg ccaacgccaa cctgatcggc tttgaagttt gcgaatcata tcctggtcgc 300

atctcagaca aactgtttct ggaaaacgag gaagccacac tgaaagtagc tgccgacgtg 360

atgaaatcgt atggcctgcc tgtgaatcgc aacacagtgc gcctgcacaa cgaatttttc 420

ggtacatcat gccctcatcg ttcatgggac ctgcacgtgg gcaaaggcga gccttatacc 480

acaacaaata tcaataaaat gaaagattat ttcattaaac ggattaaaca ctactatgac 540

ggtggcaaac tggaagttag caaagcagcc accattaaac agagtgatgt taaacaagaa 600

gtgaaaaaac aagaggccaa acaaattgtg aaagccaccg attggaaaca gaacaaagat 660

ggcatctggt ataaagcaga acatgccagc tttaccgtga ccgcaccgga aggcattatt 720

acccgttata aaggtccgtg gaccggtcat ccgcaggcag gcgtgctgca gaaaggtcag 780

accatcaaat atgatgaagt gcagaaattt gatggccatg tttgggttag ctgggaaacc 840

tttgaaggtg aaaccgttta tatgccggtt cgtacctggg atgcaaaaac cggtaaagtt 900

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<210> 52
<211> 972
<212> DNA
<213> Artificial

<220>
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<400> 52
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gccaatcgca acgaggtgct gtggtatcat cctacagact acgtggaatg gcactgcggc 240

aaccaatggg ccaacgccaa cctgatcggc tttgaagttt gcgaatcata tcctggtcgc 300

atctcagaca aactgtttct ggaaaacgag gaagccacac tgaaagtagc tgccgacgtg 360

atgaaatcgt atggcctgcc tgtgaatcgc aacacagtgc gcctgcacaa cgaatttttc 420

ggtacatcat gccctcatcg ttcatgggac ctgcacgtgg gcaaaggcga gccttatacc 480

acaacaaata tcaataaaat gaaagattat ttcattaaac ggattaaaca ctactatgac 540

ggtggcaaac tggaagttag caaagcagcc accattaaac agagtgatgt taaacaagaa 600

gtgaaaaaac aagaggccaa acaaattgtg aaagccaccg attggaaaca gaacaaagat 660

ggcatctggt ataaagcaga acatgccagc tttaccgtga ccgcaccgga aggcattatt 720

acccgttata aaggtccgtg gaccggtcat ccgcaggcag gcgtgctgca gaaaggtcag 780

accatcaaat atgatgaagt gcagaaattt gatggccatg tttgggttag ctgggaaacc 840

tttgaaggtg aaaccgttta tatgccggtt cgtacctggg atgcaaaaac cggtaaagtt 900

ggtaaactgt ggggtgagat taaagagctc ggtcgtaaaa aacgtcgtca gcgtcgtcgt 960

ccgcctcagt aa 972

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<211> 600
<212> DNA
<213> Artificial

<220>
<223> Polynucleotide

<400> 53
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ccttggctgt acgctcgcga aaacaacggt acacatgtga atggctgggc ctcagtgtat 180

gccaatcgca acgaggtgct gtggtatcat cctacagact acgtggaatg gcactgcggc 240

aaccaatggg ccaacgccaa cctgatcggc tttgaagttt gcgaatcata tcctggtcgc 300

atctcagaca aactgtttct ggaaaacgag gaagccacac tgaaagtagc tgccgacgtg 360

atgaaatcgt atggcctgcc tgtgaatcgc aacacagtgc gcctgcacaa cgaatttttc 420

ggtacatcat gccctcatcg ttcatgggac ctgcacgtgg gcaaaggcga gccttatacc 480

acaacaaata tcaataaaat gaaagattat ttcattaaac ggattaaaca ctactatgac 540

ggtgagctcc gccagatcaa aatttggttt cagaatcgtc gcatgaaatg gaaaaaataa 600

<210> 54
<211> 579
<212> DNA
<213> Artificial

<220>
<223> Polynucleotide

<400> 54
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tcaattcagg gcgtggtgat ccacaacgat tatggctcaa tgacccttc acagtacctg 120

ccttggctgt acgctcgcga aaacaacggt acacatgtga atggctgggc ctcagtgtat 180

gccaatcgca acgaggtgct gtggtatcat cctacagact acgtggaatg gcactgcggc 240

aaccaatggg ccaacgccaa cctgatcggc tttgaagttt gcgaatcata tcctggtcgc 300

atctcagaca aactgtttct ggaaaacgag gaagccacac tgaaagtagc tgccgacgtg 360

atgaaatcgt atggcctgcc tgtgaatcgc aacacagtgc gcctgcacaa cgaatttttc 420

ggtacatcat gccctcatcg ttcatgggac ctgcacgtgg gcaaaggcga gccttatacc 480

acaacaaata tcaataaaat gaaagattat ttcattaaac ggattaaaca ctactatgac 540

ggtgagctcc gtcgtcgtcg ccgtcggcgt cgtcgttaa 579

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<211> 591
<212> DNA
<213> Artificial

<220>
<223> Polynculeotide

<400> 55
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ccttggctgt acgctcgcga aaacaacggt acacatgtga atggctgggc ctcagtgtat 180

gccaatcgca acgaggtgct gtggtatcat cctacagact acgtggaatg gcactgcggc 240

aaccaatggg ccaacgccaa cctgatcggc tttgaagttt gcgaatcata tcctggtcgc 300

atctcagaca aactgtttct ggaaaacgag gaagccacac tgaaagtagc tgccgacgtg 360

atgaaatcgt atggcctgcc tgtgaatcgc aacacagtgc gcctgcacaa cgaatttttc 420

ggtacatcat gccctcatcg ttcatgggac ctgcacgtgg gcaaaggcga gccttatacc 480

acaacaaata tcaataaaat gaaagattat ttcattaaac ggattaaaca ctactatgac 540

ggtgagctcg gtcgtaaaaa acgtcgtcag cgtcgtcgtc cgcctcagta a 591

<210> 56
<211> 924
<212> DNA
<213> Artificial

<220>
<223> Polynucleotide

<400> 56
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tgtttcgact acgccaacgc tggctggaaa gtgctgttcg gcctgctgct gaaaggcctg 180

ggagccaaag acatcccttt tgcaaacaat ttcgatggcc tggccacagt ttatcaaaac 240

acccctgact ttctggccca accaggcgac atggtggtgt ttggttctaa ttatggcgca 300

ggctatggcc acgtagcctg ggtgatcgaa gccacactgg actacattat tgtttatgag 360

caaaactggc tgggaggcgg atggacagac ggcatcgaac agcctggctg gggctgggag 420

aaagtgacac gccgtcaaca tgcctatgac ttccctatgt ggttcatccg tcctaatttc 480

aaaggtggta aactggaagt tagcaaagca gcaaccatta aacagtccga tgttaaacaa 540

gaagtgaaaa aacaagaggc caaacaaatt gtgaaagcca ccgattggaa acagaacaaa 600

gatggcattt ggtataaagc agaacatgcc agctttaccg ttaccgcacc ggaaggcatt 660

attacccgtt ataaaggtcc gtggaccggt catccgcagg caggcgtact gcagaaaggt 720

cagaccatta aatacgatga agtgcagaaa tttgatggcc atgtttgggt tagctgggaa 780

acctttgaag gtgaaaccgt ttatatgccg gttcgtacct gggatgcaaa aaccggtaaa 840

gtgggcaaac tgtggggtga aatcaaagag ctccgccaga tcaaaatttg gtttcagaat 900

cgtcgcatga aatggaaaaa ataa 924

<210> 57
<211> 903
<212> DNA
<213> Artificial

<220>
<223> Polynucleotide

<400> 57
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tgtttcgact acgccaacgc tggctggaaa gtgctgttcg gcctgctgct gaaaggcctg 180

ggagccaaag acatcccttt tgcaaacaat ttcgatggcc tggccacagt ttatcaaaac 240

acccctgact ttctggccca accaggcgac atggtggtgt ttggttctaa ttatggcgca 300

ggctatggcc acgtagcctg ggtgatcgaa gccacactgg actacattat tgtttatgag 360

caaaactggc tgggaggcgg atggacagac ggcatcgaac agcctggctg gggctgggag 420

aaagtgacac gccgtcaaca tgcctatgac ttccctatgt ggttcatccg tcctaatttc 480

aaaggtggta aactggaagt tagcaaagca gcaaccatta aacagtccga tgttaaacaa 540

gaagtgaaaa aacaagaggc caaacaaatt gtgaaagcca ccgattggaa acagaacaaa 600

gatggcattt ggtataaagc agaacatgcc agctttaccg ttaccgcacc ggaaggcatt 660

attacccgtt ataaaggtcc gtggaccggt catccgcagg caggcgtact gcagaaaggt 720

cagaccatta aatacgatga agtgcagaaa tttgatggcc atgtttgggt tagctgggaa 780

acctttgaag gtgaaaccgt ttatatgccg gttcgtacct gggatgcaaa aaccggtaaa 840

gtgggcaaac tgtggggtga aatcaaagag ctccgtcgtc gtcgccgtcg gcgtcgtcgt 900

taa 903

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<211> 915
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<213> Artificial

<220>
<223> Polynucleotide

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tgtttcgact acgccaacgc tggctggaaa gtgctgttcg gcctgctgct gaaaggcctg 180

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caaaactggc tgggaggcgg atggacagac ggcatcgaac agcctggctg gggctgggag 420

aaagtgacac gccgtcaaca tgcctatgac ttccctatgt ggttcatccg tcctaatttc 480

aaaggtggta aactggaagt tagcaaagca gcaaccatta aacagtccga tgttaaacaa 540

gaagtgaaaa aacaagaggc caaacaaatt gtgaaagcca ccgattggaa acagaacaaa 600

gatggcattt ggtataaagc agaacatgcc agctttaccg ttaccgcacc ggaaggcatt 660

attacccgtt ataaaggtcc gtggaccggt catccgcagg caggcgtact gcagaaaggt 720

cagaccatta aatacgatga agtgcagaaa tttgatggcc atgtttgggt tagctgggaa 780

acctttgaag gtgaaaccgt ttatatgccg gttcgtacct gggatgcaaa aaccggtaaa 840

gtgggcaaac tgtggggtga aatcaaagag ctcggtcgta aaaaacgtcg tcagcgtcgt 900

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<211> 540
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<213> Artificial

<220>
<223> Polynucleotide

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ggctatggcc acgtagcctg ggtgatcgaa gccacactgg actacattat tgtttatgag 360

caaaactggc tgggaggcgg atggacagac ggcatcgaac agcctggctg gggctgggag 420

aaagtgacac gccgtcaaca tgcctatgac ttccctatgt ggttcatccg tcctaatttc 480

aaagagctcc gccagatcaa aatttggttt cagaatcgtc gcatgaaatg gaaaaaataa 540

<210> 60
<211> 519
<212> DNA
<213> Artificial

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ggctatggcc acgtagcctg ggtgatcgaa gccacactgg actacattat tgtttatgag 360

caaaactggc tgggaggcgg atggacagac ggcatcgaac agcctggctg gggctgggag 420

aaagtgacac gccgtcaaca tgcctatgac ttccctatgt ggttcatccg tcctaatttc 480

aaagagctcc gtcgtcgtcg ccgtcggcgt cgtcgttaa 519

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<211> 531
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<220>
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<400> 61
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<210> 62
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<212> DNA
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cagaccatca aatatgatga ggtgcagaaa tttgatggcc atgtttgggt tagctgggaa 720

acctttgaag gtgaaaccgt ttatatgccg gttcgtacct gggatgcaaa aaccggtaaa 780

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cgtcgcatga aatggaaaaa ataa 864

<210> 63
<211> 843
<212> DNA
<213> Artificial

<220>
<223> Polynucleotide

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tatggtggca aactggaagt tagcaaagca gcaaccatta aacagtccga tgttaaacaa 480

gaagtgaaaa aacaagaggc caaacaaatt gtgaaagcga ccgattggaa acagaacaaa 540

gatggcattt ggtataaagc agaacatgcc agctttaccg tgaccgcacc ggaaggcatt 600

attacccgtt ataaaggtcc gtggaccggt catccgcagg caggcgtgct gcagaaaggt 660

cagaccatca aatatgatga ggtgcagaaa tttgatggcc atgtttgggt tagctgggaa 720

acctttgaag gtgaaaccgt ttatatgccg gttcgtacct gggatgcaaa aaccggtaaa 780

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taa 843

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tatggtggca aactggaagt tagcaaagca gcaaccatta aacagtccga tgttaaacaa 480

gaagtgaaaa aacaagaggc caaacaaatt gtgaaagcga ccgattggaa acagaacaaa 540

gatggcattt ggtataaagc agaacatgcc agctttaccg tgaccgcacc ggaaggcatt 600

attacccgtt ataaaggtcc gtggaccggt catccgcagg caggcgtgct gcagaaaggt 660

cagaccatca aatatgatga ggtgcagaaa tttgatggcc atgtttgggt tagctgggaa 720

acctttgaag gtgaaaccgt ttatatgccg gttcgtacct gggatgcaaa aaccggtaaa 780

gtgggtaaac tgtggggtga aatcaaagag ctcggtcgta aaaaacgtcg tcagcgtcgt 840

cgtccgcctc agtaa 855

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<211> 483
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<213> Artificial

<220>
<223> Polynucleotide

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taa 483

<210> 66

<211> 462
<212> DNA
<213> Artificial

<220>
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aactatggcg gtggcaacca gatcggtctg atcgagaacg atggtgtgca ccgccaatgg 240

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tatggtgagc tccgtcgtcg tcgccgtcgg cgtcgtcgtt aa 462

<210> 67
<211> 474
<212> DNA
<213> Artificial

<220>
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<400> 67
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gtgaatagtt ttagtaattc taccgctcaa gatccgatgc cattcctgaa atctgccggt 420

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<400> 68
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<210> 69

<400> 69
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<211> 37
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 70

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Phe Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val
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Pro Arg Thr Glu Ser
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<210> 71
<211> 29
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 71

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
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Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly
20 25

<210> 72
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 72

Ile Leu Pro Trp Lys Trp Pro Trp Trp Pro Trp Arg Arg
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<210> 73
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Polypeptide fragment

<400> 73

Arg Gly Gly Arg Leu Cys Tyr Cys Arg Arg Arg Phe Cys Val Cys Val
1 5 10 15

Gly Arg

<210> 74
<211> 31
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Arg Ser Ser

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Lys Cys

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