eolf-seql

SEQUENCE LISTING

<110> BioNTech AG
Genmab A/S

<120> Agonistic TNF receptor binding agents

<130> 674-140 PCT

<150> PCT/EP2015/050255
<151> January 8, 2015

<160> 2328

<170> PatentIn version 3.5

<210> 1
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1

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


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


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


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


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


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

Gly Ala Asp His Ser Gly Gln Asp Leu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 2
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2

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

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Ile Ser Asn
20 25 30

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

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

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

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

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

<210> 3
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 3

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


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


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


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


Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80


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


Cys Ala Arg Gly Asp Ser Gly His Pro Tyr Tyr Tyr Ser Phe Asn Leu
            100                 105                 110


Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 4
<211> 109
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 4

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                  10                  15


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


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr His Gly Thr Arg Ser
                85                  90                  95


Asp Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 5
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 5

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


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

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

Ile Ile Tyr Gly Ser Gly Tyr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

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

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

Tyr Gly Ile Ser Ser Gly Asn Phe Leu His Phe Asn Leu Trp Gly Gln
            100                 105                 110

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

<210> 6
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 6

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Asp Ser Ser His
                85   90   95

Ile Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Thr
            100   105   110

<210> 7
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 7

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

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

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

Thr Ile Tyr Thr His Gly Ser Ser Tyr Tyr Ala Thr Trp Ala Lys Gly
    50   55   60

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

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

```
Ala Gly Gly Leu Ser Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100                 105                 110


Ser
```

<210> 8
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 8

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Asp Asn Ala
            20                  25                  30


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Tyr Gly Gly Thr Tyr
                85                  90                  95


Gly Asp Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 9
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 9

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

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

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

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

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

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

Tyr Thr Gly Phe Phe Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
100 105 110

Ser

<210> 10
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 10

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


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30


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


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


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


Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Gly
                85                  90                  95


Ser Trp Arg Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 11
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 11

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


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

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

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

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

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

Tyr Thr Gly Phe Phe Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100                 105                 110

Ser
```

<210> 12
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 12

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Ser
                85                  90                  95

Ser Trp Arg Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 13
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 13

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

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

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

Cys Ile Ala Pro Gly Gly Gly Asn Thr Tyr Tyr Ala Thr Trp Ala Lys
    50                  55                  60

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

Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95
```

Thr Tyr Pro Ser Ile Trp Tyr Phe Gly Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 14
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 14

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asn
20 25 30

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

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

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Met Ser Asp Leu Glu Ser
65 70 75 80

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

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

<210> 15
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 15

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


Leu Thr Leu Thr Cys Thr Ala Ser Gly Ser Asp Ile Ser Thr Tyr His
            20                  25                  30


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


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


Arg Phe Thr Val Ser Arg Thr Ser Thr Thr Val Asp Leu Leu Met Thr
65                  70                  75                  80


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


Ala Gly His Ala Phe Phe Asp Leu Trp Gly Pro Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115
```

<210> 16
<211> 112
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 16

```
Ala Val Val Met Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30


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


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


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


Ser Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Asp Gly Asp Thr
                85                  90                  95


Thr Thr Ala Phe Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
            100                 105                 110
```

<210> 17
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 17

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


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

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

Ala Cys Ile Asp Thr Ser Ser Gly Ser Thr Trp Tyr Ala Ser Trp Ala
    50                  55                  60

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

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

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

Thr Leu Val Thr Val Ser Ser
        115
```

<210> 18
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 18

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Asn Asn Tyr
            20                  25                  30

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Gly Ala Ser Gly
                85                  90                  95

Ser Gly Ser Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 19
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 19

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

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

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

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

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

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

Ser Tyr Tyr Ile Gly Tyr Tyr Phe Asn Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 20
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 20

Gln Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asn
20 25 30

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ala Thr Thr
85 90 95

Asn Val Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 21
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 21

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


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


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


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


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


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


Pro Asp Ala Arg Gly Tyr Tyr Tyr Asn Leu Trp Gly Pro Gly Thr Pro
            100                 105                 110


Val Thr Val Ser Ser
        115
```

<210> 22
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 22

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


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


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


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


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


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ile Thr Asn
                85                  90                  95


Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 23
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 23

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


Thr Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr
            20                  25                  30
```

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

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

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

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

Tyr Thr Gly Phe Phe Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
100 105 110

Ser

<210> 24
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 24

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

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

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Gly
85 90 95

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

<210> 25
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 25

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

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

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

Gly Ile Tyr Thr Gly Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Arg Gly
50 55 60

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

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

```
Gly Asp Arg Ile Tyr Thr Thr Phe Asn Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  26
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  26

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


Gly Thr Val Ser Leu Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
            20                  25                  30


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


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


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


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


Asp Asp Gly Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 27
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 27

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


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


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


Ile Ile Ser Thr Tyr Gly Asp Thr Tyr Tyr Ala Thr Trp Ala Lys Gly
    50                  55                  60


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


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


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


Val Thr Val Ser Ser
        115
```

<210> 28
<211> 113
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 28

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                  10                  15


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


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


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


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


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


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


Lys
```

<210> 29
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 29

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

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

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

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

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Thr Met Pro
65                  70                  75                  80

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

Val Asn Asp Gly Tyr Tyr Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser
        115
```

<210> 30
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 30

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15

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

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

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

Ser Gly Ser Gly Lys His Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Ser Tyr Ser Ile
85 90 95

Ile Asp Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 31
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 31

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

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

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

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

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

```
Met Thr Ser Leu Thr Thr Glu His Thr Ala Thr Tyr Phe Cys Ala Thr
                85                  90                  95


Tyr Gly Gly Gly Gly Gly His Asn Leu Trp Gly Pro Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115
```

<210> 32
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 32

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


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


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


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


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


Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Ala Tyr Tyr Gly Ser
                85                  90                  95
```

Gly Asp Ile Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 33
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 33

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

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

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

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

Trp Ala Lys Gly Arg Ile Thr Ile Ser Glu Thr Ser Ser Thr Thr Val
65 70 75 80

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

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

Pro Gly Thr Val Val Thr Val Ser Ser
115 120

<210> 34
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 34

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

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

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

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

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

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

Ser Gly Ser Tyr Thr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 35
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 35

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

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

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

Gly Cys Ile Ala Thr Gly Gly Gly Asn Thr Tyr Tyr Ala Thr Trp Ala
    50                  55                  60

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

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

Arg Thr Tyr Pro Ser Met Trp Tyr Phe Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115
```

<210> 36
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 36

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Phe Asn
            20                  25                  30
```

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Phe Tyr Ala Gly Ser Ser
85 90 95

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

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

<220>
<223> VH

<400> 37

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

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

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

Ile Ala Cys Ile Phe Ala Gly Ser Gly Gly Gly Ala Gly Tyr Ala Thr
50 55 60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

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

Cys Ala Arg Pro Leu Ser Gly Tyr Ala Tyr Gly Met Asp Leu Trp Gly
100 105 110

Pro Gly Thr Leu Val Thr Val Ser Leu
115 120

<210> 38
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 38

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Glu
1 5 10 15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Asp Gly Ser Ser
85 90 95

Asp Val Gly Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 39
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 39

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

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

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

Ile Gly Cys Ile Ile Thr Gly Arg Gly Asn Thr Tyr Tyr Ala Asn Trp
50 55 60

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

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

Ala Arg Gly Pro Gly Gly Ala Asp Pro Val Asn Leu Trp Gly Pro Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 40
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 40

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                  10                  15


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


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Asp Gly Ser Ser
                85                  90                  95


Tyr Val Pro Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 41
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 41

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

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

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

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

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

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

Tyr Thr Gly Phe Phe Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100                 105                 110

Ser
```

<210> 42
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 42

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30
```

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Gly
                85   90   95

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

<210> 43
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 43

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

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

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

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

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

```
Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Asp
                85                  90                  95

Val Leu Tyr Ala Phe Asp Pro Trp Gly Pro Gly Thr Leu Val Thr Val
            100                 105                 110

Ser Ser
```

<210> 44
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 44

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Tyr
            20                  25                  30

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Tyr Thr Tyr Ser Thr Ser Pro
                85                  90                  95
```

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

<210> 45
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 45

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

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

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

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

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

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

Cys Ala Arg Glu Ile Leu Tyr Pro Ala Asp Thr Asp Ser Phe Asp Leu
100 105 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 46
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 46

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


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


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


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


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


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


Gly Gly Tyr Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 47
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 47

```
Gln Ser Leu Glu Glu Ser Gly Gly Gly Leu Phe Lys Pro Thr Asp Thr
1               5                   10                  15
```

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

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

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

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

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

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

Leu Val Thr Val Ser Ser
        115
```

<210> 48
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 48

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

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Ser Asn Thr Asn Thr
85 90 95

Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

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

<220>
<223> VH

<400> 49

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

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

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

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

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

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


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


Thr Leu Val Thr Val Ser Ser
        115


<210>  50
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  50

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


Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Phe Asp His
            20                  25                  30


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


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


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


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Ser Ser
                85                  90                  95
```

Ser Ser Asp Thr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 51
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 51

Gln Glu Gln Leu Lys Glu Ser Gly Gly Arg Leu Val Lys Pro Asp Glu
1 5 10 15

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

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

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

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

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

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

Ser

<210> 52
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 52

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


Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Val Gly Asn
            20                  25                  30


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


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


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


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Tyr Ser
                85                  90                  95


Ser Gly Trp Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 53
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 53

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

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

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

Ile Ile Ser Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ile Lys Gly
    50                  55                  60

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

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

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

Leu Val Thr Val Ser Ser
        115
```

<210> 54
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 54

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Trp
            20                  25                  30
```

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Ser Ser Thr Thr Thr
                85   90   95

Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105

<210> 55
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 55

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Lys Pro Asp Glu Ser
1   5   10   15

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

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

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

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

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


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


Leu Val Thr Val Ser Ser
        115


<210>  56
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  56

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


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Leu Ser Ile Ser Ser Ala
            20                  25                  30


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Pro Tyr Asp Thr Val Asn
                85                  90                  95
```

Asn Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 57
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 57

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

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

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

Phe Ile Gly Ser Ser Gly Gly Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

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

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

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

Thr Val Ser Ser
115

<210> 58
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 58

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

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Ser Ser
20 25 30

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Asp Phe Ile Ala Ser
85 90 95

Ser Gly Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 59
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 59

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

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

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

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

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

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

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

Ser
```

<210> 60
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 60

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Thr Asn
            20                  25                  30
```

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ser Thr Asn
85 90 95

Val Glu Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 61
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 61

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

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

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

Ile Ala Cys Ile Asp Thr Ala Asp Gly Tyr Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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


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


Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  62
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  62

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


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


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


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


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


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Gly
                85                  90                  95
```

Ala Val Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 63
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 63

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

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

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

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

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

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

Cys Ala Arg Glu Ile Leu Tyr Pro Thr Asn Thr Asp Ser Phe Asp Leu
100 105 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 64
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 64

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


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


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


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


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


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


Gly Gly Tyr Phe Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 65
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 65

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

```
Ser Leu Thr Leu Thr Cys Thr Ala Ser Ala Leu Ser Phe Tyr Ser Ala
            20                  25                  30

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

Ala Cys Ile Tyr Ala Gly Gly Ser Arg Ser Thr Tyr Tyr Ala Thr Trp
    50                  55                  60

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

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

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

Thr Leu Val Thr Val Ser Ser
        115
```

<210> 66
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 66

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Ser Trp
            20                  25                  30
```

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Asn Gly Gly Gly Thr Ser
85 90 95

Gly Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 67
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 67

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

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

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

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

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

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

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

Leu Val Thr Val Ser Ser
115

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

<220>
<223> VL

<400> 68

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ala Asp Ser Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 69
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 69

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

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

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

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

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

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

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

Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 70
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 70

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

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

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

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

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

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Gly
85 90 95

Ala Val Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 71
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 71

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

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Val
            20                  25                  30

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

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

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65                  70                  75                  80

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

Tyr Gly Gly Tyr Ile Leu Val Thr Gly Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 72
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 72

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Gly Pro
                85                  90                  95

Phe Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 73
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 73

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

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

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

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

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Glu Met Thr
65                  70                  75                  80
```

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

Thr Ile Asp Trp Phe Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

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

<220>
<223> VL

<400> 74

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

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Pro Ser Val Tyr Ser Asn
20 25 30

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Trp Cys Leu Gly Gly Tyr Gly Asp Ile
85 90 95

Asn Asp Thr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

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

<220>
<223> VH

<400> 75

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

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

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

Tyr Ile Asp Tyr Gly Gly Thr Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Gly Gly Tyr Ile Leu Val Thr Gly Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 76
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 76

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                  10                  15


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


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Gly Pro
                85                  90                  95


Phe Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 77
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 77

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

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

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

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

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

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

Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu Trp Gly Pro Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115
```

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

<220>
<223> VL

<400> 78

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Gly Asp Asn Tyr
            20                  25                  30
```

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Cys Ala Gly Ser Gly
                85   90   95

Val Cys Leu Gly Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 79
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 79

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

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

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

Cys Ile Asp Thr Gly Ser Ser Gly Arg Thr Asp Tyr Ala Ser Trp Ala
    50   55   60

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

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


Arg Tyr Gly Asp Tyr Ala Gly Tyr Gly Tyr Asp Ser Phe Asp Pro Trp
            100                 105                 110


Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


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

<220>
<223>  VL

<400>  80

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


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Ile Asn Asn Trp
            20                  25                  30


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


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


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


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

Val Glu Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 81
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 81

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

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

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

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

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Glu Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Asn
85 90 95

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

Ser Ser

<210> 82
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 82

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

Gly Thr Val Ser Ile Ser Cys Gln Ser Ser Lys Ser Val Ile Asn Asn
20 25 30

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

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

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

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Ala Tyr Ser Pro
85 90 95

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

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

<220>
<223> VH

<400> 83

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

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

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

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

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

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

Thr Thr Phe Thr Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            100                 105                 110
```

<210> 84
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 84

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

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

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Asp Tyr Asp Ser Asn
85 90 95

Tyr Val Val Asp Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 85
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 85

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

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

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

Ile Gly Cys Ile Lys Thr Gly Phe Ser Asn Thr Trp Tyr Ala Ser Trp
50 55 60

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

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

Ala Arg Ile Ala Ala Ala Ala Ser Ala Ser Asp Asp Phe Arg Leu Trp
100 105 110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 86
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 86

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

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

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Phe Cys Leu Gly His Tyr Asp Ser Ser
85 90 95

Ser Asp Arg Phe Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 87
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 87

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


Leu Thr Leu Thr Cys Thr Val Ser Arg Phe Ser Leu Ser Thr Ser Thr
            20                  25                  30


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


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


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


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


Asp Ser Tyr Asp Asp Ile Tyr Gly Thr Ser Arg Leu Tyr Ala Phe Asp
            100                 105                 110


Pro Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 88
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 88

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Val Val Gly
1 5 10 15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ser Ser Asn
85 90 95

Val Asp Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 89
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 89

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

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

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

Thr Ile Trp Tyr Ser Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

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

Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp
                85                  90                  95

Pro Leu Tyr Val Gly Gly Asn Ser Gly Ser Asp Leu Trp Gly Pro Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115
```

<210> 90
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 90

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

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Asn Tyr Gly Ala Ala Ser
                85                  90                  95

Ser Ser Tyr Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 91
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 91

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

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

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

Ala Cys Thr Tyr Asn Arg Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
    50                  55                  60

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

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

```
Arg Asp Asp Gly Tyr Pro Gly Ser Gly Tyr Val Phe Asn Leu Trp Gly
            100                 105                 110


Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  92
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  92

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


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


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


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


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


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Tyr Ser Ser Gly
                85                  90                  95


Ala Asp Asn Asn Ser Phe Gly Gly Gly Thr Glu Leu Val Val Lys
            100                 105                 110
```

<210> 93
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 93

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

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

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

Tyr Ile Trp Ser Gly Gly Thr Thr Asp Tyr Ala Ser Trp Ala Lys Gly
50 55 60

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

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

Val Glu Phe Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 94
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 94

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

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

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

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

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

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Phe Tyr Asp
85 90 95

Ser Gly Trp Leu Ser Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 95
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 95

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

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

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

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

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

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

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

Pro Gly Thr Leu Val Ile Val Ser Ser
        115                 120
```

<210> 96
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 96

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

Ser Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Tyr Asn Asn
            20                  25                  30

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

Leu Ile Tyr Gln Ala Ser Lys Leu Ala Ser Gly Val Ser Ser Arg Phe
    50                  55                  60
```

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

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Tyr Arg
85 90 95

Ser Gly Leu Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 97
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 97

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

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

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

Leu Ala Cys Thr Tyr Asn Arg Asp Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

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

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 98
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 98

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

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

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Tyr Ser Ser Asn
                85   90   95

Thr Asp Asn Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 99
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 99

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

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

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

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

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

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

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

Val Thr Val Ser Ser
        115

<210> 100
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 100

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

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

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

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

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

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

Ile His Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 101
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 101

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

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

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

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

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

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

Asn Tyr Asp Gly Tyr Ile Asn Val Tyr Asp Leu Trp Gly Pro Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115
```

<210> 102
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 102

```
Asp Val Val Met Thr Gln Thr Pro Ser Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Asn Asn Gly Ala Tyr Gly
85 90 95

Ser Ala Tyr Val Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 103
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 103

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

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

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

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

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

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

Arg Ala Tyr Asp Ser Gly Tyr Ile Gly Asn Ser Phe Tyr Ile Phe His
100 105 110

Pro Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 104
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 104

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

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

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

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

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

Ala Asp Gly Ala Thr Tyr Tyr Cys Ala Gly Tyr Gly Gly Leu Gly Ile
                85   90   95

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

<210> 105
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 105

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

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

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

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

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

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

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

Val Thr Val Ser Ser
        115

<210> 106
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 106

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

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Thr Thr Tyr Thr
85 90 95

Thr Val Asp Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 107
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 107

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

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

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

```
Ile Ile Tyr Thr Ser Asn Arg Thr His Tyr Ala Thr Trp Ala Lys Gly
    50                  55                  60

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

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

Gly Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu Trp Gly Pro
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  108
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  108

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Cys Ala Gly Ser Gly
85 90 95

Val Cys Leu Gly Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 109
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 109

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

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

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

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

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Thr Met Pro
65 70 75 80

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

Val Asn Asp Gly Tyr Tyr Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
        115

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

<220>
<223> VL

<400> 110

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1   5   10   15

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

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

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

Ser Gly Ser Gly Lys His Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Ser Tyr Ser Ile
                85   90   95

Thr Asp Asn Cys Phe Gly Gly Gly Thr Glu Val Val Val Ser
            100   105   110

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

<220>
<223> VH

<400> 111

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


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


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


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


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


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


Ala Arg Ala Ala Gly Gly Tyr Ala Asp Tyr Ala Tyr Val Met Gly Asp
            100                 105                 110


Tyr Phe Asn Phe Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 112
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 112

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

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

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ser Ser Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 113
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 113

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

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

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

```
Ile Ala Cys Ile Asp Ser Gly Ser Ser Gly Ser Thr Trp Tyr Ala Ser
    50                  55                  60

Trp Val Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80

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

Cys Val Arg Asp Asp Val Gly Ser Ser Tyr Glu Tyr Tyr Phe Ser Leu
            100                 105                 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 114
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 114

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

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

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

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

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

Ala Asp Ala Ala Ala Tyr Tyr Cys Gln Thr Tyr Phe Gly Ser Asp Ser
85 90 95

Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 115
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 115

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

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

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

Ala Cys Ile Tyr Val Gly Ser Ser Gly Thr Thr His Tyr Ala Ser Trp
50 55 60

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

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

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

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 116
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 116

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1   5   10   15

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

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Asn Ile Ser Asn
                85   90   95

Leu Asp Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 117
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 117

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


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


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


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


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


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


Ala Arg Met Ser Tyr Thr Asn Asp Trp Asp Pro Ile Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115
```

<210> 118
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 118

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


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


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Tyr Ser Ser Ser
                85                  90                  95


Thr Ser Tyr Glu Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Ser
            100                 105                 110


<210>  119
<211>  117
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VH

<400>  119

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


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


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

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

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

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

Ala Gly Gly Asn Trp Ala Glu Leu Asp Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115


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

<220>
<223>  VL

<400>  120

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Trp
            20                  25                  30

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Ser Thr Ile Ser Asn
85 90 95

Val Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 121
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 121

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

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

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

Ala Cys Ile His Ala Gly Ser Ser Gly Thr Thr His Tyr Ala Thr Trp
50 55 60

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

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

Ala Arg Gly Ala Val Tyr Gly Gly Gly Ser Tyr Asp Asn Phe Asn Leu
100 105 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 122
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 122

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1   5   10   15

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

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ala Asp Asn
                85   90   95

Val Ala Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 123
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 123

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

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

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

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

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

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

Gly Gly Ser Thr Val Pro Trp Phe Phe Asp Val Trp Gly Pro Gly Thr
            100   105   110

Leu Val Thr Val Ser Ser
        115

<210> 124
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 124

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

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

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ala Asp Ser Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 125
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 125

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

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

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

```
Gly Ser Ile Tyr Thr Gly Lys Asp Ser Ile Asp Tyr Ala Ser Trp Ala
    50                  55                  60

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

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

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

Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  126
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  126

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser His Asn Ile Tyr Ser Asn
            20                  25                  30

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

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

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

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

Asp Ile Thr Phe Gly Gly Gly Thr Glu Val Val Ala Gln
100 105

<210> 127
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 127

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

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

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

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

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

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

Ala Arg Gly Asp Asn Ile Ala Tyr Phe Met Leu Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
        115

<210> 128
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 128

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1   5   10   15

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

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

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

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

Ala Asp Ala Ala Ala Tyr Tyr Cys Gln Gly Tyr Tyr Tyr Tyr Ser Asn
                85   90   95

Val Val Tyr Ala Ser Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 129
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 129

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

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Thr Ile Ser Ser Tyr Glu
20 25 30

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

Trp Ile Ala Ser Gly Gly Ser Thr Phe Tyr Ala Ser Trp Ala Lys Gly
50 55 60

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

Asp Leu Arg Pro Ser Asp Thr Gly Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

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

<210> 130
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 130

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Ser Val Gly
1               5                   10                  15


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


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


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


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


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr His Ser Thr Ser Gly
                85                  90                  95


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


<210>  131
<211>  121
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VH

<400>  131

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


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


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

```
Ile Ala Cys Ile Asp Thr Ala Asp Ala Tyr Thr Tyr Tyr Ala Ser Trp
    50                  55                  60

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

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

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

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

<210> 132
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 132

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

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

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

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

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

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Gly
85 90 95

Ala Val Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 133
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 133

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

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

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

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

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

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

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

<210> 134
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 134

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


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


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


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


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


Gln Ser Asp Asp Ala Ala Thr Tyr Phe Cys Gln Gly Thr Tyr Tyr Ser
                85                  90                  95


Asp Gly Trp Tyr Ser Asp Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 135
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 135

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

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

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

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

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

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

His Pro Asn Met Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Ile Ser
100 105 110

Ser

<210> 136
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 136

Asp Ile Val Met Thr Gln Thr Pro Ser Ser Val Glu Ala Ala Val Gly
1 5 10 15

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

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Ser Tyr Tyr Asp Ala Ser
85 90 95

Ile Phe Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Arg
100 105 110

<210> 137
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 137

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

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

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

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

```
Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Ser
65                  70                  75                  80


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


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


Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  138
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  138

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


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


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


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


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

Gln Ser Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Gly
85 90 95

Ala Val Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 139
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 139

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

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

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

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

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

Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Asp
85 90 95

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

Thr Val Ser Ser
115

<210> 140
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 140

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


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


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


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


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


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Asn Thr Gly Ile
                85                  90                  95


Thr Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 141
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 141

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


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


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


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


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


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


Asn Pro Gly Asp Asp Val Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115
```

<210> 142
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 142

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

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

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

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

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

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

Val Ile Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 143
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 143

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

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

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

Phe Ile Asn Thr Gly Gly Arg Gly Tyr Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

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


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


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


Val Thr Val Ser Ser
        115


<210>  144
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  144

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


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


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


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


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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Thr Thr Ser Thr
85 90 95

Thr Val Asp Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 145
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 145

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

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

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

Thr Ile Tyr Ala Ser Gly Ser Thr Phe Tyr Ala Ser Gly Ala Lys Gly
50 55 60

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

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

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

Ser Ser

<210> 146
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 146

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

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Pro Ser Val Tyr Ser Asn
            20   25   30

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

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

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

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Ser Asp Thr
                85   90   95

Ala Asp Thr Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 147
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 147

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

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

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

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

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Met Thr
65                  70                  75                  80

Ser Leu Thr Ala Ser Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
                85                  90                  95

Thr His Gly Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            100                 105                 110
```

<210> 148
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 148

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

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Val Tyr Asn Asn
            20                  25                  30
```

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

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

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

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

Asn Phe Phe Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 149
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 149

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

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

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

Thr Ile Thr Thr Gly Gly Ser Thr Phe Phe Ala Ser Trp Ala Lys Gly
    50   55   60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 150
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 150

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Ser
20 25 30

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

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

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

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Thr Ser Asn
85 90 95

Leu Val Asn Pro Phe Gly Gly Gly Thr Glu Leu Val Val Asn
100 105 110

<210> 151
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 151

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

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

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

Ala Cys Ile Ser Ala Gly Ser Ser Gly Ser Ile Tyr Tyr Ala Ser Trp
50 55 60

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

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

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

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 152
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 152

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

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

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

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

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

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

Ser Ser Asp Thr Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 153
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 153

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

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

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

Ile Ile Tyr Ala Ser Gly Thr Thr Tyr Tyr Ala Arg Trp Ala Lys Gly
    50                  55                  60

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

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

Asp Ser Tyr Asp Tyr Ala Tyr Gly Ser Ser Ile Tyr Ala Phe Asp Pro
            100                 105                 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 154
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 154

```
Ala Tyr Asp Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Tyr Ser Asn
            20                  25                  30
```

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

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

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ser Ser Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 155
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 155

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

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

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

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

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

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


Gly Tyr Phe Thr Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            100                 105                 110


<210>  156
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  156

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


Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Gly Gly Asn
            20                  25                  30


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


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


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


Gln Ser Asp Asp Ser Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Asp
                85                  90                  95


Val Thr Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 157
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 157

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


Leu Thr Leu Thr Cys Thr Val Ser Arg Phe Ser Leu Ser Thr Ser Thr
            20                  25                  30


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


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


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


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


Asp Ser Tyr Asp Asp Ile Tyr Gly Thr Ser Arg Leu Tyr Ala Phe Asp
            100                 105                 110


Pro Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 158
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 158

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

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

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

Tyr Arg Ala Ser Tyr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ser Ser Asp
85 90 95

Val Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 159
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 159

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Ile Cys Thr Ala Ser Gly Ile Asp Leu Ser Ser Tyr Gly
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Ser Thr Ile Gly Asp Thr Tyr Tyr Ala Ser Trp Val Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Thr
                85   90   95

Asn Ser Gly Tyr Ala Met Met Tyr Tyr Phe Asn Leu Trp Gly Gln Gly
            100   105   110

Thr Leu Val Thr Val Ser Ser
        115

<210> 160
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 160

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Val Asn Ala
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Leu Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Val Ala Ser Tyr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Val Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Tyr Ser Ser Gly
                85   90   95

Thr Ser Tyr Gly Gln Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 161
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 161

Gln Glu Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala
1   5   10   15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Ile Asp Phe Ser Ser Ser
            20   25   30

Tyr Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35   40   45

Ile Ala Cys Ile Asp Thr Val Asp Asp Tyr Thr Tyr Tyr Ala Ser Trp
    50   55   60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Ser
65   70   75   80

```
Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95


Ala Arg Glu Arg Ile Asp Asn Asn Thr Asp Cys Phe Asp Leu Trp Gly
            100                 105                 110


Pro Gly Thr Leu Val Thr Ile Ser Ser
        115                 120


<210>  162
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  162

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Val Ser Lys
            20                  25                  30


Asn Arg Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Trp Leu Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60


Arg Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65                  70                  75                  80


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Gly
                85                  90                  95
```

Ala Ile Tyr Ala Phe Gly Gly Gly Thr Asp Val Val Val Lys
100 105 110

<210> 163
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 163

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Asn Asn Asn Ala
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Thr Ala Gly Thr Thr Thr Tyr Ala Ser Trp Thr Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Ala
85 90 95

Tyr Phe Ser Tyr Gly Tyr Ile Asn Leu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 164
<211> 108

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 164

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Asn Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Thr Thr Tyr Phe Cys Gln Ser Tyr Val Tyr Ser Asp Gly
85 90 95

Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 165
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 165

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Lys Val Ser Gly Phe Ser Leu Ser Ser Tyr Asp
            20                  25                  30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Val Ser Thr Gly Gly Ser Ala Gly Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Thr Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ile Ile
                85                  90                  95

Ser Gly Gly Arg Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100                 105                 110

Ser
```

<210> 166
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 166

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Ser Arg
            20                  25                  30
```

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Phe Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Tyr Ser Ser Thr
85 90 95

Ala Ser Tyr Ala Ser Asn Asn Ala Phe Gly Gly Gly Thr Glu Val Val
100 105 110

Val Lys

<210> 167
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 167

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Thr Tyr Val
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Asp Tyr Gly Gly Ala Pro Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
                85                  90                  95


Tyr Gly Gly Tyr Val Leu Val Thr Val Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  168
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  168

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Ser Ser
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gln Ala Ser Thr Leu Ala Ser Glu Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Asn Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Ser Thr
85 90 95

Tyr Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 169
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 169

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr Tyr
20 25 30

Ile Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Ser Thr Ala Gly Asn Thr Tyr Phe Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
85 90 95

Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 170
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 170

Asp Ile Val Leu Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Asp Arg Phe
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Val Asp Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Asp Asn Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ile Ser Asp
                85   90   95

Ile Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 171
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 171

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Gln Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Phe Asn Ser Asn
20 25 30

Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Ala Cys Ile Met Thr Gly Asp Gly Ser Thr Tyr Tyr Ala Thr Trp
50 55 60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65 70 75 80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Gly Tyr Asp Gly Ile His Gly Gly Asp Asn Tyr Gly His Val
100 105 110

Phe Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 172
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 172

Ala Phe Glu Leu Thr Gln Thr Pro Phe Ser Val Ser Ala Val Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asn Ile Tyr Ser Leu
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Ile Ile Ser Asp Leu Glu Ser
65 70 75 80

Gly Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Ile Asn Ser Ser
85 90 95

Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 173
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 173

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Glu Phe Asp Phe Asn Asn Asn Ala
20 25 30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Ala
35 40 45

Cys Ile Tyr Ile Gly Asn Gly Gly Thr Trp Tyr Ala Ser Trp Ala Lys
50 55 60

```
Gly Arg Phe Thr Ile Ser Lys Ser Ser Ser Thr Thr Val Thr Leu Gln
65                  70                  75                  80


Val Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95


Gly Glu Asn Ile Ala Tyr Phe Ile Leu Trp Gly Pro Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115


<210>  174
<211>  113
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  174

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Asn Ser Trp
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Tyr Tyr Ser Ser
85 90 95

Ser Asn Tyr Ala Ser Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 175
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 175

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Trp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Phe Ile Tyr Gly Gly Ser Gly Asp Lys Tyr Tyr Ala Ser Trp Ala Lys
50 55 60

Gly Arg Phe Ala Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile
65 70 75 80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
85 90 95

Gly Asp Gly Asp Gly Thr Tyr Ser Ser Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
        115

<210> 176
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 176

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Ala Gly Lys
            20   25   30

Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Val Leu
        35   40   45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Arg Val Pro Ser Arg Phe Arg
    50   55   60

Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu
65   70   75   80

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Gly Gly
                85   90   95

Ile Tyr Gly Phe Gly Gly Gly Thr Glu Val Val Val Glu
            100   105

<210> 177
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 177

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
            20                  25                  30


Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Tyr Ile Thr Tyr Gly Gly Ser Thr Tyr Tyr Ala Asn Trp Val Asn Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Met Val Asp Leu Lys Met Thr
65                  70                  75                  80


Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Leu Arg
                85                  90                  95


Ala Pro Tyr Tyr Tyr Arg Ile Tyr Phe Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115
```

<210> 178
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 178

Ala Leu Val Met Thr Gln Thr Pro Ser Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Ile Ser Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Ala Tyr Asp Thr Asn Ile
85 90 95

Asn Asp Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 179
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 179

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Tyr
20 25 30

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

```
Ala Cys Ile Ala Thr His Ser Gly Thr Asp Phe Tyr Ala Ser Trp Ala
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65                  70                  75                  80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
                85                  90                  95

Arg Asp Pro Tyr Gly Phe Asn Gly Asp Tyr Phe Ser Leu Trp Gly Pro
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 180
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 180

```
Ala Leu Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Ser
            20                  25                  30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60
```

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Tyr Lys Ser Tyr
85 90 95

Thr Asn Asp Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 181
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 181

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Asn Tyr Gly
20 25 30

Ile Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Tyr Ile Asn Tyr Gly Gly Ile Ala Tyr Tyr Ala Ser Trp Val Asn Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Gly Tyr Tyr Ser Ala Gly Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
        115

<210> 182
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 182

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asp Asn
            20   25   30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg
        35   40   45

Leu Ile Tyr Asp Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Glu Tyr Ser Cys
                85   90   95

Leu Ser Asp Asp Cys Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 183
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 183

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asn Tyr Tyr
            20                  25                  30


Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45


Ile Ile Gly Ser Gly Val Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Ala Ser Ser Thr Thr Val Asp Leu Lys Met
65                  70                  75                  80


Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp
                85                  90                  95


Met Tyr Val Gly Asn Trp Gly Asp Trp Gly Leu Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115
```

<210> 184
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 184

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Asn Asn
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Val Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Val Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Arg Ile Gly Asp
85 90 95

Leu Asp Ser Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 185
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 185

Gln Glu Gln Leu Lys Glu Ser Gly Gly Arg Leu Val Lys Pro Asp Glu
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Arg Tyr
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Gly Ser Ile Trp Ser Asp Gly Asp Thr Asp Tyr Ala Asn Trp Ala Lys
    50   55   60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Met Val Asp Leu Lys Ile
65   70   75   80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Gly
                85   90   95

Tyr Thr Ala Trp Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100   105   110

Ser

<210> 186
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 186

Ala Leu Val Met Thr Gln Thr Pro Ser Pro Val Ser Ala Thr Val Gly
1   5   10   15

Gly Thr Leu Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Val Gly Asn
            20   25   30

Asn Ala Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35   40   45

Leu Ile Tyr Gln Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Tyr Ser
85 90 95

Ser Gly Trp Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 187
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 187

Gln Glu Gln Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Asn Ser Tyr
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Trp Ser Asp Gly Asn Thr Asp Tyr Ala Ser Trp Ala Ala
50 55 60

Gly Arg Phe Thr Ala Ser Arg Ala Ser Thr Thr Val Asp Leu Lys Met
65 70 75 80

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
85 90 95

```
Tyr Thr Gly Phe Phe Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100                 105                 110


Ser
```

<210> 188
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 188

```
Asp Val Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30


Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Glu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys
    50                  55                  60


Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu
65                  70                  75                  80


Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Gly
                85                  90                  95


Ser Trp Arg Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 189
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 189

```
Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1               5                   10                  15


Ser Leu Thr Leu Thr Cys Thr Ser Ser Gly Phe Ser Leu Asn Ser Asn
            20                  25                  30


Tyr Tyr Ile Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45


Ile Ala Cys Ile Asp Ala Gly Ser Gly Ser Thr Trp Tyr Ala Ser Trp
    50                  55                  60


Val Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80


Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95


Ala Arg Asp Asp Ile Gly Thr Ser Tyr Glu Tyr Tyr Phe Gly Leu Trp
            100                 105                 110


Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 190
<211> 108
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 190

Asp Val Val Leu Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Thr Ile Ser Ser Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Ser Asp Ser
85 90 95

Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 191
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 191

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Asn Ala
20 25 30

```
Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Phe Ile Asn Thr Gly Ser Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Ala
                85                  90                  95

Asp Asp Ser Arg Gly Tyr Tyr Trp Gly Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 192
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 192

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Pro Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Tyr Ser Leu
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Arg Gly
    50   55   60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Thr Thr Tyr Thr
                85   90   95

Thr Val Asp Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 193
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 193

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
            20   25   30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Ile Gly
        35   40   45

Leu Ile Tyr Ala Ser Asn Arg Thr His Tyr Ala Thr Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Ser Ser Thr Thr Val Asp Leu Lys Ala Thr
65   70   75   80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Tyr Gly
                85   90   95

```
Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  194
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  194

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Gly Asp Asn Tyr
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Arg Gly
    50                  55                  60


Ser Arg Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Cys Ala Gly Ser Gly
                85                  90                  95


Val Cys Val Gly Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 195
<211> 132
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 195

Gln Ser Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Glu Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr
20 25 30

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Cys Ile Tyr Ala Gly Thr Phe Ser Asp Thr Phe Tyr Ala Ser Trp
50 55 60

Thr Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65 70 75 80

Leu Gln Met Thr Ser Leu Thr Gly Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Gly His Tyr Tyr Tyr Thr Asp Asn Tyr Thr Ala Asn Gly Tyr
100 105 110

Gly Arg Gly Leu Thr Arg Leu Asp Leu Trp Gly Gln Gly Thr Leu Val
115 120 125

Thr Val Ser Ser
130

<210> 196
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 196

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
20 25 30

Asn Asn Leu Ala Trp Tyr Gln Gln Lys Ala Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Ser Tyr Tyr Cys Ala Gly Gly Tyr Thr Thr
85 90 95

Ser Gly Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 197
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 197

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Asp
            20                  25                  30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Tyr Leu Thr Asp Thr Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Ser
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg His Leu
                85                  90                  95

Asp Thr Ser Ser Gly Gly Phe Tyr Phe Asn Leu Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115


<210>  198
<211>  113
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  198

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Ser
            20                  25                  30
```

Lys Ile Leu Ala Trp Tyr Gln Gln Lys Pro Gly Arg Pro Pro Lys Leu
        35   40   45

Leu Ile Tyr Asp Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Phe Cys Gln Gly Glu Phe Thr Cys
                85   90   95

Thr Ser Ala Asp Cys Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 199
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 199

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Ile Val Ser Gly Ile Asp Leu Ser Ser Asn Ala
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Gly Phe Ala Gly Ile Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
    50   55   60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Tyr
                85                  90                  95


Gly Asp Ser Asp Gly Leu Tyr Asn Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115


<210>  200
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  200

Ala Gln Val Leu Thr Gln Thr Ala Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Tyr Asn Asn
            20                  25                  30


Asn Trp Leu Gly Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60


Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80
```

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Ser Gly
85 90 95

Asn Ile Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Asn
100 105 110

<210> 201
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 201

Gln Ser Leu Glu Glu Ser Gly Gly Gly Leu Phe Gln Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Lys Ala Ser Gly Leu Asp Phe Ser Thr Asn Tyr
20 25 30

Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Ile
35 40 45

Ala Cys Ile Ser Thr Ser Ser Gly Asn Thr Trp Tyr Ala Ser Trp Ala
50 55 60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

Arg Cys Asp Ile Val Tyr Val Gly Tyr Gly Tyr Ala Ser Arg Leu Asp
100 105 110

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 202
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 202

```
Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Val Tyr Asn Asn
            20                  25                  30


Asn Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Phe
        35                  40                  45


Leu Ile Tyr Gly Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60


Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80


Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Gly Ser Thr
                85                  90                  95


Ser Val Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 203
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 203

Gln Gln Gln Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15

Thr Leu Thr Leu Pro Cys Lys Ala Ser Gly Phe Thr Ile Ser Ser Asp
20 25 30

Tyr Asp Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Thr Cys Ile Leu Gly Gly Ser Gly Gly Ser Thr Trp Tyr Ala Asn
50 55 60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Gln Ser Ser Ser Thr Thr Val
65 70 75 80

Thr Leu Gln Met Thr Ser Leu Thr Asp Ala Asp Thr Ala Thr Tyr Phe
85 90 95

Cys Thr Arg Ala Ser Gly Phe Thr Tyr Phe Glu Leu Trp Gly Pro Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 204
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 204

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
20 25 30

Lys Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Ser Cys
85 90 95

Ser Ser Ser Asp Cys Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 205
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 205

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Lys Pro Asp Glu Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Asp Leu Ser Ser Tyr Ala
20 25 30

Val Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

```
Tyr Ile Tyr Gly Gly Ser Gly Ser Thr Trp Tyr Ala Ser Trp Ala Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys
65                  70                  75                  80

Met Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95

Ala Tyr Asp Ser Gly Tyr Ile Gly Asn Ser Phe Tyr Ala Phe Asp Pro
            100                 105                 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 206
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 206

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Thr Ile Ser Ser Thr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60
```

Ser Gly Ser Gly Pro Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Gly Gly Thr Tyr Thr Cys Ala Gly Tyr Gly Thr Val Gly Val
85 90 95

Thr Ala Phe Gly Gly Gly Thr Glu Val Val Val Arg
100 105

<210> 207
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 207

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Tyr
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Ser Thr Ala Gly Asn Thr Tyr Phe Ala Ser Trp Val Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Thr Arg Asp Gly
85 90 95

Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
        115

<210> 208
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 208

Ala Ile Asp Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Asp Arg Phe
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Val Asp Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Asp Asn Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ala Ile Ser Asp
                85   90   95

Ile Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 209
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 209

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Asn Asn Asn Ala
            20   25   30

Met Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Ser Thr Ala Asp Thr Thr Ser Tyr Ala Ser Trp Thr Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Ala
                85   90   95

Tyr Phe Ser Tyr Gly Tyr Phe Asn Leu Trp Gly Gln Gly Thr Leu Val
            100   105   110

Thr Val Ser Ser
        115

<210> 210
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 210

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Asn Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Thr Thr Tyr Phe Cys Gln Ser Tyr Val Tyr Ser Asp Gly
85 90 95

Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 211
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 211

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Gln Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Phe Asp Ser Asn
20 25 30

Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp
35 40 45

```
Ile Ala Cys Ile Met Thr Gly Asp Gly Ser Ile Tyr Tyr Ala Thr Trp
    50                  55                  60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95

Ala Arg Gly Tyr Asp Gly Ile His Gly Gly Asp Asn Tyr Gly His Val
            100                 105                 110

Phe Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 212
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 212

```
Ala Phe Glu Leu Thr Gln Thr Pro Phe Ser Val Ser Ala Val Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asn Ile Tyr Thr Leu
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Arg Ala Ser Thr Leu Thr Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Val Asp Ser Gly
85 90 95

Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 213
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 213

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Tyr
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Ser Thr Ala Gly Asn Thr Tyr Phe Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
85 90 95

Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
        115

<210> 214
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 214

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Asp Arg Phe
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Val Asp Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Asp Asn Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ile Ser Asp
                85   90   95

Ile Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 215
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 215

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Arg Pro Gly Ala Ser
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Leu Ser Phe Ser Asp Arg Tyr
            20   25   30

Trp Ile Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Ala Ser Ile Tyr Thr Gly Ser Asp Gly Val Ala Asp Tyr Ala Thr Trp
    50   55   60

Ala Lys Gly Arg Val Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65   70   75   80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85   90   95

Ala Arg Asp Arg Glu Tyr Gly Ser Asn Thr Gly Val Tyr Ser Leu Trp
            100   105   110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 216
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 216

Asp Val Leu Met Thr Gln Thr Pro Ser Ser Val Ser Pro Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Val
35 40 45

Tyr Asp Ala Ser Asn Leu Glu Tyr Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Asn Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Asn Asn
85 90 95

Tyr Ile Thr Phe Gly Gly Gly Thr Glu Val Val Val Arg
100 105

<210> 217
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 217

Gln Gln Gln Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Thr Leu Ser Ser Tyr
20 25 30

Leu Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Ile
35 40 45

```
Gly Cys Ile Gly Thr Tyr Ser Gly Ala Thr Tyr Tyr Gly Ser Trp Ala
    50                  55                  60

Lys Asp Arg Phe Thr Ile Ala Lys Thr Ser Ser Thr Thr Val Thr Leu
65                  70                  75                  80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
                85                  90                  95

Arg Asp Tyr Asn Phe Ala Leu Trp Gly Pro Gly Thr Leu Val Thr Val
            100                 105                 110

Ser Ser
```

<210> 218
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 218

```
Ala Ile Val Met Thr Gln Thr Pro Ser Ser Lys Ser Val Pro Val Gly
1               5                   10                  15

Asp Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Val Tyr Asn Asn
            20                  25                  30

Asn Tyr Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Ser Thr Leu Thr Ser Gly Val Pro Ser Arg Phe
    50                  55                  60
```

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Val Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Tyr Lys Ser Ser
85 90 95

Trp Thr Asp Gly Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 219
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 219

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Ala Ala Ser Gly Phe Ser Leu Asn Ser Tyr Val
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Asp Tyr Gly Gly Ala Pro Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Ile Glu Asp Thr Gly Thr Tyr Phe Cys Ala Arg Gly Gly
85 90 95

Tyr Gly Gly Tyr Val Leu Val Thr Ala Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
        115

<210> 220
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 220

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Tyr
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Gln Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Ser Thr
                85   90   95

Tyr Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Glu
            100   105   110

<210> 221
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 221

Gln Glu Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1   5   10   15

Ser Leu Thr Leu Pro Cys Thr Ala Ser Gly Phe Thr Leu Ser Ser Arg
            20   25   30

Tyr Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35   40   45

Ile Gly Cys Ile Tyr Ala Gly Ser Leu Arg Thr Trp Tyr Ala Ser Trp
    50   55   60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65   70   75   80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85   90   95

Ala Arg Ser Pro Gly Val Ala Ala Ser Tyr Pro Glu Leu Trp Gly Pro
            100   105   110

Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 222
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 222

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ala Ala Ala Val Gly
1 5 10 15

Gly Thr Val Ser Ile Ser Cys Gln Ser Ser Gln Ser Val Gly Asn Ala
20 25 30

Asp Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Asn Leu
35 40 45

Leu Ile Tyr Tyr Ala Ala Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gly Gly Gly Tyr Tyr Asn
85 90 95

Ser Thr Asp Thr Phe Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 223
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 223

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Gln Pro Glu Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Asp Phe Ser Ser Thr Tyr
20 25 30

```
Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45

Gly Cys Ile Asp Asp Ser Tyr Ala Tyr Thr Tyr Tyr Ala Ser Trp Ala
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Lys Pro Ser Ser Thr Thr Val Thr Leu
65                  70                  75                  80

Gln Val Thr Ser Leu Thr Val Ala Asp Thr Ala Thr Tyr Phe Cys Ala
                85                  90                  95

Arg Asp Gly Tyr Pro Gly Tyr Gly Val Gly Ser Phe Asn Leu Trp Gly
            100                 105                 110

Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 224
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 224

```
Ala Ile Val Met Thr Gln Thr Pro Ser Ser Lys Ser Val Pro Val Gly
1               5                   10                  15

Asp Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Val Tyr Ser Asn
            20                  25                  30

Asn Arg Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45
```

Leu Ile Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Val Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Tyr Lys Ser Tyr
85 90 95

Ser Asp Asp Gly Thr Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 225
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 225

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Val
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Asp Tyr Gly Gly Ala Pro Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
85 90 95

```
Tyr Gly Gly Tyr Val Leu Val Thr Val Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  226
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  226

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Ser Ser
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gln Ala Ser Arg Leu Ala Ser Glu Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Ser Thr
                85                  90                  95


Tyr Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Glu
            100                 105                 110
```

<210> 227
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 227

Gln Glu His Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Asp Leu Ser Ile Asn
20 25 30

Val Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Ile
35 40 45

Val Cys Ile Asp Asn Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Val
50 55 60

Asn Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

Arg Pro Gly Thr Phe Thr Tyr Gly Gly Asn Thr Tyr Pro Gly Ser Phe
100 105 110

Val Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 228
<211> 109
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 228

Ala Phe Glu Leu Thr Gln Thr Pro Ser Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asn Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Thr Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Tyr Val Asn Ile Ile
85 90 95

Gly Ile Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 229
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 229

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Asp Ile Tyr Gly Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Phe Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65   70   75   80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Lys
                85   90   95

Gly Tyr Asn Tyr Asn Leu Trp Asn Leu Trp Gly Gln Gly Thr Leu Val
            100   105   110

Thr Val Ser Ser
        115

<210> 230
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 230

Asp Ile Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Ile Tyr Thr Asn
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35   40   45

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Ser Tyr Ser Gly Ser
                85   90   95

Ser Ser Ala Asn Pro Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 231
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 231

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Asp
            20   25   30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Tyr Leu Thr Asp Thr Thr Tyr Tyr Ala Asn Trp Thr Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Ser
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg His Leu
                85   90   95

Asp Thr Ser Ser Gly Gly Phe Tyr Phe Asn Leu Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 232
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 232

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Ser
20 25 30

Lys Ile Leu Ala Trp Tyr Gln Gln Lys Pro Gly Arg Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Asp Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Phe Cys Gln Gly Glu Phe Thr Cys
85 90 95

Thr Ser Ala Asp Cys Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 233
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 233

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Glu Phe Ser Phe Ser Asn Asn Tyr
20 25 30

Tyr Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ala Cys Ile Tyr Val His Ser Gly Thr Thr Asp Tyr Ala Thr Trp Ala
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Thr Ser Ser Thr Thr Val Thr Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Val Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

Arg Gly Arg Ser Gly Tyr Tyr Ala Asp Ala Phe Asp Thr Trp Gly Pro
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 234
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 234

Ala Leu Asp Met Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
20 25 30

Asn Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Leu Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Glu Ile
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Asp Ser Ser
85 90 95

Ser Gly Trp Glu His Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 235
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 235

Gln Glu Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Thr
1 5 10 15

```
Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Leu Asp Phe Ser Ser Thr
            20                  25                  30

Pro Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45

Ile Ala Cys Ile Tyr Thr Gly Ser Val Ile Tyr Thr Tyr Tyr Ala Ser
    50                  55                  60

Trp Ala Lys Asp Arg Phe Thr Ile Ser Lys Ile Ser Ser Thr Ser Val
65                  70                  75                  80

Thr Leu Gln Met Thr Ser Leu Thr Val Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95

Cys Ala Arg Ser Pro Ala Gly Tyr Ala Ala Tyr Gly Tyr Gly Gly Phe
            100                 105                 110

Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 236
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 236

```
Ala Ile Glu Met Thr Gln Thr Pro Phe Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Ile Tyr Asn Asn
            20                  25                  30
```

```
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Glu Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Tyr Tyr Ser Ser Ser
                85                  90                  95

Ala Thr Asp Met Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 237
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 237

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr His
            20                  25                  30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Tyr Ala Gly Ser Gly Asn Thr Trp Tyr Ala Ser Trp Ala Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile
65                  70                  75                  80
```

Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gln
85 90 95

Pro Gly Gly Gly Ala Ser Asp Thr Gln Leu Asp Leu Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 238
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 238

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Phe Asp Asn
20 25 30

Asn Gln Leu Ser Trp Phe Gln His Lys Pro Gly Gln Ser Pro Lys Leu
35 40 45

Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Ser Ser
85 90 95

Ser Ser Asp Thr Val Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 239
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 239

Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Arg
20 25 30

Phe Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Ala Cys Ile Tyr Gly Gly Ser Thr Ser Ala Thr Tyr Asp Ala Ser
50 55 60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
85 90 95

Cys Thr Arg Leu Pro Thr Tyr Asp Ala Tyr Val Phe Asn Leu Trp Gly
100 105 110

Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 240
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 240

Ala Ile Val Met Thr Gln Thr Pro Ser Ser Lys Ser Val Pro Val Gly
1 5 10 15

Ala Thr Ala Thr Ile Asn Cys Gln Ala Ser Glu Ser Val Phe Ser Asn
20 25 30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Arg Ser Pro Lys Leu
35 40 45

Leu Ile Tyr Glu Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Val Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gly Gly Tyr Lys Ser Asn
85 90 95

Asn Val Asp Gly Tyr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 241
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 241

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn His Tyr His
            20                  25                  30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45

Arg Ile Asp Asn Ser Gly Tyr Ile Val Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Ala Asp Thr Ala Thr Tyr Phe Cys Gly Lys Tyr Tyr
                85                  90                  95

Ser Gly Gly Ser Tyr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110

Ser Ser
```

<210> 242
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 242

```
Ala Gln Val Leu Thr Gln Thr Ala Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Trp Asn Asn
            20                  25                  30
```

Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35   40   45

Leu Ile Tyr Glu Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Ser Cys
                85   90   95

Ser Ser Asp Asp Cys Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 243
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 243

Gln Glu Gln Leu Lys Glu Ser Gly Gly Gly Leu Val Thr Pro Gly Gly
1   5   10   15

Thr Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Gly His
            20   25   30

Asp Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Gly Ile Ile Gly Ser Asn Ser Lys Thr Tyr Tyr Thr Asn Trp Ala Lys
    50   55   60

```
Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Gly Leu Arg Ile
65                  70                  75                  80


Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Thr Val Val
                85                  90                  95


Gly Pro Gly Val Gly Gly Phe Tyr Phe Asp Leu Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115


<210>  244
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  244

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Asp Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Arg Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Ala Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Val Gly Ser Thr
85 90 95

Tyr Leu Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 245
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 245

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Asn Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Val Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
85 90 95

Asp Ser Gly Arg Gly Tyr Tyr Phe His Phe Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 246
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 246

```
Ala Phe Glu Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Tyr Ser Leu
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Ile Tyr Tyr Cys Gln Gln Gly Tyr Thr Thr Val Thr
                85                  90                  95


Ile Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 247
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 247

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Glu Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr
20 25 30

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Cys Met Ile Thr Gly Arg Gly Asn Thr Tyr Tyr Ala Thr Trp Ala
50 55 60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

Arg Gly Pro Gly Gly Ala Asp Pro Ile Asn Leu Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 248
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 248

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Asn Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Glu Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Asp Gly Ser Ser
85 90 95

Tyr Val Pro Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 249
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 249

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Ile Gly
35 40 45

Leu Ile Tyr Ala Ser Asp Arg Thr His Tyr Ala Thr Trp Ala Lys Gly
50 55 60

```
Arg Phe Thr Ile Ser Lys Ser Ser Thr Thr Val Asp Leu Lys Ala Thr
65                  70                  75                  80


Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Tyr Gly
                85                  90                  95


Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  250
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  250

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Gly Asp Asn Tyr
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Arg Gly
    50                  55                  60


Ser Arg Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Cys Ala Gly Ser Gly
85 90 95

Val Cys Val Gly Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 251
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 251

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Tyr Gly Gly Ser Gly Ser Thr Trp Tyr Ala Ser Trp Ala Lys
50 55 60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys
65 70 75 80

Met Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
85 90 95

Ala Tyr Asp Ser Gly Tyr Ile Gly Asn Ser Phe Tyr Ile Phe Asp Pro
100 105 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 252
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 252

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Thr Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Arg
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Arg Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Gly Ala Thr Tyr Tyr Cys Ala Gly Tyr Gly Gly Leu Gly Ile
                85   90   95

Thr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105

<210> 253
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 253

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr Tyr
20 25 30

Ile Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Ser Thr Ala Gly Asn Thr Tyr Phe Ala Ser Trp Ala Asn Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
85 90 95

Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 254
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 254

Asp Ile Val Leu Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Asp Arg Phe
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Val Asp Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Asp Asn Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ile Ser Asp
                85   90   95

Ile Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 255
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 255

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser His Ala
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35   40   45

Ile Ile Asp Thr Asp Ala Ser Ala Ser Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

```
Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
                85                  90                  95


Gly Tyr Thr Asp Tyr Ser Tyr Tyr Ala Met Asp Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  256
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  256

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Thr Ile Tyr Val Asn
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Val Lys Ser
65                  70                  75                  80
```

Val Asp Ala Ala Thr Tyr Tyr Cys His Gln Ala Tyr Arg Arg Ser Asp
85 90 95

Val Gly Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 257
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 257

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Trp Ile Thr Thr Asp Gly Gly Thr Asp Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Val Ser Lys Ala Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Ala Ser Phe Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 258
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 258

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Leu Ser Asn
20 25 30

Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Ala Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Asp Tyr Ser
85 90 95

Gly Gly Trp Tyr Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 259
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 259

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
            20                  25                  30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Ala
        35                  40                  45

Ile Ile Tyr Thr Thr Asn Arg Thr His Tyr Ala Thr Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Ser Ser Thr Thr Val Asp Leu Lys Ala Thr
65                  70                  75                  80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Tyr Gly
                85                  90                  95

Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu Trp Gly Pro Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115


<210>  260
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  260

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Gly Asp Asn Tyr
            20                  25                  30
```

Cys Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Gln Ala Ser Lys Leu Thr Ser Gly Val Pro Ser Arg Phe Arg Gly
    50   55   60

Ser Arg Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Cys Ala Gly Ser Gly
                85   90   95

Val Cys Leu Gly Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 261
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 261

Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1   5   10   15

Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Asp Phe Ser Ser Asp
            20   25   30

Ala Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Ala Cys Ile Tyr Val Gly Ser Val Gly Ser Ser Trp Tyr Ala Ser Trp
    50   55   60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Ser Ser Ser Thr Thr Val Thr
65   70   75   80

Leu Gln Val Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Gly Glu Asn Ile Ala Tyr Phe Thr Phe Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 262
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 262

Asp Ile Met Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Asn Ser Trp
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Glu Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Tyr Tyr Ser Ser
85 90 95

Ser Asn Phe Ala Ser Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 263
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 263

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Leu Ser Leu Ser Ser Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Trp Ser Gly Gly Ser Thr Asp Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Ile
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Val Glu Phe Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 264
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 264

Asp Pro Val Leu Thr Gln Thr Pro Pro Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Leu Tyr Ser Asn
20 25 30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Ala Gly Gln Pro Pro Lys Val
35 40 45

Leu Ile Trp Pro Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Ala Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Glu Leu
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Phe Tyr Asp
85 90 95

Ser Gly Trp Leu Ser Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 265
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 265

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Asn Ser Tyr Tyr
            20                  25                  30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Phe Ile Asn Gly Tyr Asp Asn Thr Trp Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Pro
                85                  90                  95

Gly Gly Ala Ser Gly Thr Gly Arg Leu Asp Leu Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115


<210>  266
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  266

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Thr Ala
            20                  25                  30
```

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35   40   45

Tyr Asp Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Asn Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Asp Ala Tyr
                85   90   95

Asp Val Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Asn
            100   105   110

<210> 267
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 267

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Gln Pro Gly Ala Ser
1   5   10   15

Leu Thr Leu Thr Cys Lys Ala Ser Gly Ile Asp Leu Ser Ser Tyr Trp
            20   25   30

Met Cys Trp Val Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Cys Ile Ala Thr Tyr Ser Ser Val Thr Tyr Tyr Ala Asn Trp Ala Lys
    50   55   60

Gly Arg Phe Thr Ile Ser Lys Pro Ser Ser Thr Thr Val Thr Leu Gln
65   70   75   80

```
Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95


Asp Pro Tyr Ser Phe Asn Gly Ser Leu Phe Thr Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  268
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  268

Ala Leu Val Met Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asp Cys Gln Ala Ser Gln Asn Ile Gly Thr Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Thr Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Tyr Lys Asn Tyr Asn Asn
                85                  90                  95
```

Asp Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 269
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 269

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Asn Tyr Asp
20 25 30

Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
35 40 45

Tyr Ile Asp Thr Gly Gly Ser Ala Tyr Tyr Ala Asn Trp Val Asn Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Ala Ser Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Ile His Gly Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 270
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 270

Ala Leu Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Val Tyr Asn Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Arg Pro Gly Gln Pro Pro Glu Leu Leu Ile
35 40 45

Asp Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Asp Trp Glu Ser Ser
85 90 95

Asn Phe Phe Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 271
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 271

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Gly
20 25 30

```
Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Met Ile Ile Asp Val Thr Tyr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Thr Pro
                85                  90                  95

Gly Tyr Gly Ile Tyr Ala Tyr Gly Asn Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 272
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 272

```
Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Tyr Gly Asn
            20                  25                  30

Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45
```

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Glu Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Ser
85 90 95

Ala Ala Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 273
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 273

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Met Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Val
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Cys Ile Gly
35 40 45

Val Ile Tyr Gly Gly Gly Thr Ile Trp Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Met Asp Leu Gln Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
85 90 95

Ser Ser Ser Gly Asp Pro Gly Phe Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 274
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 274

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asn Trp
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
35 40 45

Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Thr Gly Ser Thr Ala Tyr
85 90 95

Gly Arg Ala Phe Gly Gly Gly Thr Glu Val Val Val Arg
100 105

<210> 275
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 275

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser His Tyr His
20 25 30

Ile Leu Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Lys Tyr Ile Gly
35 40 45

Ile Thr Leu Asn Asn Gly Arg Ile Asp Tyr Ala Thr Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Glu Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Lys Tyr Phe
85 90 95

Val Ser Glu Ser Tyr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 276
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 276

Thr Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Ser Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asp
20 25 30

Asn Trp Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Gly Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Lys Asp
85 90 95

Asn Ser Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 277
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 277

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Asp
20 25 30

```
Met Asn Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ala Ile Ser Thr Gly Gly Asp Thr His Tyr Thr Asn Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80

Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
                85                  90                  95

Tyr Thr Leu Ala Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            100                 105                 110
```

<210> 278
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 278

```
Asp Pro Val Leu Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Asn Ser Trp
            20                  25                  30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
        35                  40                  45

Tyr Asp Thr Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
```

Gly Glu Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Tyr Ile Thr Ser
85 90 95

Ser Tyr Ala Ile Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 279
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 279

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Asp Ile Ser Gly Tyr Ala
20 25 30

Leu Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Val Ile Ala Ala Asp Gly Asn Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Ser Ser Gly Trp Gly Thr Tyr Gly Tyr Phe Asp Leu Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
        115

<210> 280
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 280

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Tyr Ser Tyr
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Arg Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Tyr Ser His Ser
                85   90   95

Thr Thr Tyr Ser Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 281
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 281

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Ala
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Met Asn Thr Arg Ser Gly Ile Ile Tyr Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val His Leu Lys Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Leu
                85   90   95

Tyr Ala Asp Val Ser Gly Tyr Tyr Leu Gly Leu Trp Gly Pro Gly Thr
            100   105   110

Leu Val Thr Val Ser Ser
        115

<210> 282
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 282

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Leu Tyr Asn Asn
20 25 30

Lys Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Ile Cys
85 90 95

Ser Ser Ala Asp Cys Val Val Phe Gly Gly Gly Thr Ala Val Val Val
100 105 110

Lys

<210> 283
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 283

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Tyr Tyr Tyr
20 25 30

```
Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Thr Gly Gly Gly Gly Asp Thr Tyr Tyr Gly Thr Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Thr
                85                  90                  95

Asp Gly Ala Ala His Thr Gly Phe Ala Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 284
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 284

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Ser Ser Arg
            20                  25                  30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ser Ser Tyr Gly Thr Ser
                85   90   95

Thr Ile Tyr Gly Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 285
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 285

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Phe Tyr
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Ser Thr Gly Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ser Ser Lys Thr Ser Thr Thr Val Asp Leu Gln Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Ser
                85   90   95

```
Gly Thr Asp Gly Ala Trp Leu Tyr Tyr Gly Ile Asp Leu Trp Gly Pro
            100                 105                 110


Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  286
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  286

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Gly His Ala
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Arg Thr Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Ser Leu Thr Ile Ser Asp Leu Asp Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Phe Cys Gln Ile Asn Tyr Gly Gly Gly Ser
                85                  90                  95


Gly Gly Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 287
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 287

Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser
20 25 30

Tyr Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp
35 40 45

Ile Ala Cys Ile Tyr Thr Tyr Ser Gly Asp Thr Asp Tyr Ala Asn Trp
50 55 60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65 70 75 80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Lys Ala Gly Tyr Gly Gly Tyr Gly Tyr Pro Ile Phe Asn Leu Trp
100 105 110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 288
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 288

Ala Phe Glu Leu Thr Gln Thr Pro Ser Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Met
35 40 45

Tyr Tyr Val Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Gly Ser Gly Thr
85 90 95

Thr Val Phe Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 289
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 289

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

```
Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Tyr Ile Trp Ser Gly Gly Thr Thr Asp Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Asp Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Leu
                85                  90                  95

Gly Asp Arg Gly Ser Ser Asp Tyr Tyr Met Pro Leu Lys Leu Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 290
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 290

```
Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Glu Ser Tyr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Arg Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Leu Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Asp Gly Ser Ser
                85   90   95

Ala Val Trp Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 291
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 291

Gln Glu Gln Leu Lys Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Glu
1   5   10   15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr
            20   25   30

Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Gly Met Ile Ser Thr Gly Gly Ser Ala Tyr Tyr Ala Asn Trp Ala Arg
    50   55   60

Gly Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Val
65   70   75   80

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
                85   90   95

Trp Arg Tyr Glu Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser
100 105 110

Ser

<210> 292
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 292

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Ser Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Thr Val Tyr Asn Asn
20 25 30

Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Tyr Asp
85 90 95

Asn Ala Trp Tyr His Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 293
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 293

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Val
            20                  25                  30


Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Tyr Ile Asp Tyr Gly Gly Thr Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
                85                  90                  95


Tyr Gly Gly Tyr Thr Leu Val Thr Ala Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115
```

<210> 294
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 294

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Thr Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Gly Pro
85 90 95

Phe Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 295
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 295

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Gly
20 25 30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Trp Ile Ser Ser Asn Asp Asn Lys Tyr Tyr Ala Arg Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65   70   75   80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Val Arg Asn Gly
                85   90   95

Val Tyr Asn Thr Gly Asn Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu
            100   105   110

Val Thr Val Ser Ser
        115

<210> 296
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 296

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Leu Tyr Asn Asn
            20   25   30

Lys Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Phe
        35   40   45

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Leu Ile Tyr Thr Ala Ser Ser Leu Ala Ser Gly Val Ser Ser Arg Phe
    50   55   60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Asp Cys
                85   90   95

Asp Ser Asp Asp Cys Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 297
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 297

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Ala
            20   25   30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Tyr Thr Gly Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Glu Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65   70   75   80

```
Ser Pro Thr Pro Glu Asp Thr Ala Thr Tyr Phe Cys Thr Arg Asp Leu
                85                  90                  95


Gly Ala Thr Tyr Asp Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115


<210>  298
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  298

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Thr Ala
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Thr Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Arg His Thr Asn
                85                  90                  95
```

Val Asp Asn Pro Phe Gly Gly Gly Thr Gly Val Val Val Lys
100 105 110

<210> 299
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 299

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Lys Tyr Asp
20 25 30

Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Met Ile Gly Ala Ser Asp Arg Thr Tyr Tyr Ala Ser Trp Val Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Tyr
85 90 95

Pro Asp Ala Arg Gly Tyr Tyr Tyr Asn Leu Trp Gly Pro Gly Thr Pro
100 105 110

Val Thr Val Ser Ser
115

<210> 300
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 300

Ala Leu Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asp Leu
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ile Thr Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 301
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 301

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Asn Ala
            20                  25                  30

Ile Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Ala
        35                  40                  45

Ile Ile Thr His Ser Asp Asn Thr Phe Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Ala Ser Thr Thr Val Asp Leu Lys Val Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Gly
                85                  90                  95

Tyr Val Ser Ser Ser Gly Thr Tyr Met Gly Gly Tyr Phe Asp Leu Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 302
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 302

```
Asp Pro Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ile Ile Tyr Asn Asp
            20                  25                  30
```

Lys Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35   40   45

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
    50   55   60

Lys Gly Ser Ala Ser Gly Thr Gln Phe Thr Phe Thr Ile Ser Gly Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Ser Cys
                85   90   95

Ser Ser Ala Asp Cys Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val
            100   105   110

Lys

<210> 303
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 303

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
            20   25   30

Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Val Ile Gly Ala Gly Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Asn Gly
    50   55   60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Ser
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Ile
                85                  90                  95


Gly Gly Asp Tyr Ser Ser Arg Tyr Tyr Phe Ser Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  304
<211>  108
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  304

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Thr Ser Thr Ala
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ser Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65                  70                  75                  80
```

Asp Asp Ala Ala Ser Tyr Tyr Cys Gln Gln Gly Tyr Asn Ile Asn Asn
85 90 95

Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 305
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 305

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Thr Ile Ser Ser His His
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Leu Gly
35 40 45

Val Ile Phe Pro Ser Gly His Thr Tyr Tyr Thr Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Ala
65 70 75 80

Ser Leu Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Val Arg Asp Val
85 90 95

Gly Tyr Phe Thr Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 306
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 306

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Gly Gly Asn
20 25 30

Asn Trp Leu Ala Trp Tyr Gln Gln Lys Leu Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Glu Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Ser Asp
85 90 95

Val Thr Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 307
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 307

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Tyr
            20                  25                  30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Phe Ile Thr Ser Gly Gly Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys
65                  70                  75                  80

Met Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95

Tyr Gly Asp Ser Phe Tyr Trp Ala Leu Asp Leu Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115


<210>  308
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  308

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Leu Asn Asn
            20                  25                  30
```

```
Asp Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Ala Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys
    50                  55                  60

Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Asn Val Gly Gln
65                  70                  75                  80

Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Phe Ile Asp Val
                85                  90                  95

Asn Asn Pro Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 309
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 309

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Arg Tyr Asp
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Phe Ile Gly Ala Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Val Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80
```

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Glu
85 90 95

Thr Asp Ser Arg Gly Tyr Tyr Tyr Ser Leu Trp Gly Pro Gly Thr Pro
100 105 110

Val Thr Val Ser Ser
115

<210> 310
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 310

Ala Leu Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asp Leu
20 25 30

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ile Asn Asn
85 90 95

Val Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 311
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 311

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Gly
20 25 30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Ala
35 40 45

Trp Ser Ser Ser Asn Asp Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys Met
65 70 75 80

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asn
85 90 95

Gly Val Tyr Ser Thr Gly Asn Tyr Phe Asp Leu Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 312
<211> 113

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 312

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
20 25 30

Asn Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Phe
35 40 45

Leu Ile Tyr Ala Ala Ser Arg Leu Pro Ser Gly Val Pro Pro Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Asp Cys
85 90 95

Asp Ser Ala Asp Cys Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 313
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 313

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Asn
20 25 30

Tyr Cys Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Ala Cys Ile Cys Ala Gly Ala Ser Gly Ala Thr Tyr Tyr Ala Ser
50 55 60

Trp Ala Lys Gly Arg Phe Thr Val Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

Thr Leu Gln Met Thr Ser Leu Thr Gly Ala Asp Thr Ala Thr Tyr Phe
85 90 95

Cys Ala Arg Tyr Asp Asn Ser Gly Trp Gly Asp Phe Lys Leu Trp Gly
100 105 110

Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 314
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 314

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Ile Gly Thr Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Tyr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Val Ala Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Thr Tyr Tyr Asp Ser Pro
85 90 95

Val Val Gly Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 315
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 315

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Ser Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Thr Gly Gly Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Ile Cys Ala Arg Asp Val
                85                  90                  95


Gly Gly Thr Thr Val Pro Tyr Tyr Phe Asp Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115


<210>  316
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  316

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Met Glu Val Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Ser Trp
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Pro Leu Ile
        35                  40                  45


Tyr Glu Ala Ser Arg Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Gly Ser Ser Asp
85 90 95

Val His Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 317
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 317

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr His
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Tyr Ala Gly Ser Asp Ser Thr Trp Tyr Ala Ser Trp Ala Lys
50 55 60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile
65 70 75 80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gln
85 90 95

Pro Gly Gly Gly Ala Ser Asp Thr Gln Leu Asp Leu Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 318
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 318

```
Ala Ala Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Asn Ile Phe Asp Asn
            20                  25                  30


Asn Gln Leu Ser Trp Phe Gln His Lys Ser Gly Gln Ser Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60


Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65                  70                  75                  80


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Ser Ser
                85                  90                  95


Ser Ser Asp Thr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 319
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 319

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Asp Glu Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Asn Ala
20 25 30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Asp Thr Gly Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Arg
85 90 95

Tyr Thr Asp Ser Ser Gly Tyr Asn Leu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 320
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 320

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ala Ser
20 25 30

Leu Ala Trp Tyr Lys Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Trp Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Ala Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Tyr Arg Ser Ser
85 90 95

Ser Gly Tyr Gly Tyr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 321
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 321

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Val
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ser Asp Tyr Gly Gly Thr Ala Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
                85                  90                  95


Tyr Asp Gly Tyr Leu Leu Val Thr Gly Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  322
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  322

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Gly Gly Gly Pro
85 90 95

Phe Gly Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 323
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 323

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Lys Pro Asp Glu Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Thr Ser Tyr Ala
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Ala Ile Gly Ser Gly Gly Gly Ile Tyr Tyr Ala Ser Trp Ala Arg Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys Ile
65 70 75 80

Pro Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Val
85 90 95

Pro Gln Trp Ala Tyr Leu Asp Leu Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 324
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 324

Ala Gln Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Tyr Lys Asn
            20   25   30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35   40   45

Leu Ile Tyr Asp Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65   70   75   80

Gln Ser Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Gly Gly
                85   90   95

Gly Ile Phe Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 325
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 325

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Ser Thr Ile Ser Asn Thr Tyr Tyr Ala Ser Trp Ala Asn Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Ala Ser Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Ala
85 90 95

Ser Asn Thr Ile Asn Asp Tyr Phe Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 326
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 326

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Val Gly Asn Tyr
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Phe Ala Thr Glu Phe Ile Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Thr Asp Ala Ala Thr Tyr Tyr Cys His Ser Tyr Val Tyr Ser Ser Gly
                85   90   95

Asn Val Tyr Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 327
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 327

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Asn Val
            20   25   30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Tyr Ile Tyr Ala Ser Ala Thr Thr Tyr Tyr Ala Thr Trp Ala Lys Gly
    50   55   60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Arg
                85                  90                  95


Leu Ala Ser Arg Gly Asp Tyr Ser Asp Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  328
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  328

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Gly Asp Leu
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Thr Thr Thr Ser
85 90 95

Asn Val Asp Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 329
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 329

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Gly Tyr His
20 25 30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Gln Tyr Ile Gly
35 40 45

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Ser
50 55 60

Arg Ser Thr Ile Thr Arg Asn Thr Asn Glu Asn Thr Val Thr Leu Lys
65 70 75 80

Met Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
85 90 95

Ser Ser Gly Trp Gly Ala Arg Phe Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 330
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 330

```
Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Tyr Asn Asp
            20                  25                  30


Asn Glu Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Leu Arg Phe
    50                  55                  60


Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65                  70                  75                  80


Gln Ser Asp Val Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Gly Met Thr
                85                  90                  95


Pro Ser Asp Thr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 331
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 331

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Tyr
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Asp Arg Ala Gly Thr Thr Tyr Tyr Ala Thr Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Gly Thr Tyr Phe Cys Ala Arg Asn Phe
85 90 95

Ile Tyr Gly Val Gly Thr Tyr Tyr Gly Ser Asp Leu Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 332
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 332

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Asp Pro Val Gly
1 5 10 15

```
Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Arg Arg
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65                  70                  75                  80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Asp Thr Asp Tyr Gly Ser Gly
                85                  90                  95

His Leu Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 333
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 333

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1               5                   10                  15

Leu Thr Leu Ser Cys Thr Val Asn Gly Phe Ser Leu Ser Ser His Gly
            20                  25                  30

Val Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Tyr Val Ile Ser Gly His Ala Tyr Tyr Ala Ser Trp Ala Lys
    50                  55                  60
```

```
Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile
65                  70                  75                  80


Ala Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
                85                  90                  95


Asn Tyr Gly Ser Asp Ser Gly Pro Asn Phe Thr Arg Leu Asp Leu Trp
            100                 105                 110


Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  334
<211>  113
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  334

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Thr Val Gly
1               5                   10                  15


Gly Thr Leu Thr Ile Asn Cys Gln Ala Ser Gln Ser Leu Tyr Asn Asn
            20                  25                  30


Asp Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
    50                  55                  60


Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65                  70                  75                  80
```

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Ser Cys
85 90 95

Ser Ser Gly Asp Cys Leu Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 335
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 335

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Asp
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys Met
65 70 75 80

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Thr
85 90 95

Ser Leu Asp Gly Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser
100 105 110

Ser

<210> 336
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 336

```
Ala Phe Glu Met Thr Gln Thr Pro Ser Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Tyr Asn Tyr
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Ala Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Ser Val Ser Asp
                85                  90                  95


Val Asp Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 337
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 337

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Ser His
            20                  25                  30


Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Val Ile Asn Ile Gly Asp Ile Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80


Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Asn
                85                  90                  95


Ala Tyr Gly Thr Gly Trp Asp Phe Asp Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115
```

<210> 338
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 338

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Arg Asn Ala
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Gln Leu Ile
        35   40   45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65   70   75   80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Phe Ser Leu Arg Asn
                85   90   95

Val Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 339
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 339

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Leu Ser Gly Phe Ser Leu Ser Asn Tyr Ala
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

```
Val Ile Tyr Thr Ser Gly Thr Thr His Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Met Thr
65                  70                  75                  80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Arg
                85                  90                  95

Tyr Tyr Gly Ser Gly Trp Gly Gly Tyr Tyr Phe Asn Leu Trp Gly Gln
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  340
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  340

Asp Val Val Met Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Tyr Ser Leu
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys His Gly Gly Thr Tyr Thr Gly Ser
85 90 95

Ala Asp Ile Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 341
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 341

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Asn Tyr Ala
20 25 30

Met Ser Trp Val Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ala Ile Gly Ile Gly Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Met Val Asp Leu Lys Val Ala
65 70 75 80

Ser Pro Thr Pro Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg His Ala
85 90 95

Gly Ala Gly Val Val Asn Trp Leu Asp Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
        115

<210> 342
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 342

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asn
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Ala Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65   70   75   80

Asp Asp Ala Ala Thr Phe Tyr Cys Gln Thr Tyr Gly Ser Gly Ser Phe
                85   90   95

Ser Ser Phe Asn Leu Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 343
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 343

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Tyr
            20                  25                  30


Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Ile Ile Asn Thr Ser Gly Gly Ala Tyr Tyr Ala Thr Trp Ala Asn Gly
    50                  55                  60


Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Leu
                85                  90                  95


Asp Asn Gly Phe Tyr Cys Pro Asp Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110


Ile Val Ser Ser
        115
```

<210> 344
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 344

Asp Ile Val Met Thr Gln Thr Pro Ser Ser Val Ser Glu Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Tyr Thr Leu
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Ile Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Gly Gly Ser Gly Ala Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Ala Ala
85 90 95

Tyr Ile Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 345
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 345

Gln Ser Val Glu Glu Thr Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Ala Ala Ser Gly Val Ser Leu Ser Gly Tyr Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

```
Gly Tyr Leu Asp Ala Thr Gly Ser Thr Tyr Tyr Ala Ser Trp Val Lys
    50                  55                  60

Gly Arg Phe Ile Ile Ser Arg Pro Ser Thr Thr Val Asp Leu Gln Ile
65                  70                  75                  80

Thr Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
                85                  90                  95

Ser Tyr Asp Gly Val Gly Tyr Asn Trp Gly Leu Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115
```

<210> 346
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 346

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Tyr Asn Gly
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Leu Thr Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Asn Tyr Gly Ser Gly Ser
85 90 95

Arg Ser Asn Tyr Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 347
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 347

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Asn Asn Asn Ala
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Thr Ala Asp Thr Thr Thr Tyr Ala Ser Trp Thr Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Ala
85 90 95

Tyr Phe Ser Tyr Gly Tyr Phe Asn Leu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
        115

<210> 348
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 348

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Asn Ala
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Thr Thr Tyr Phe Cys Gln Ser Tyr Val Tyr Ser Asp Gly
                85   90   95

Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105

<210> 349
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 349

```
Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1               5                   10                  15


Ser Leu Thr Leu Thr Cys Thr Ala Thr Gly Ile Asp Phe Ser Thr Asn
            20                  25                  30


Tyr Arg Ser Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45


Ile Ala Cys Ile Asp Thr Asp Asp Ser Asp Ser Thr Tyr Tyr Ala Ser
    50                  55                  60


Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80


Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95


Cys Thr Arg Ala Tyr Thr Thr Ser Asp Tyr Ala Trp Ser Phe Tyr Leu
            100                 105                 110


Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 350
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 350

Asp Leu Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Thr Ser Gln Ser Ile Ser Lys Phe
20 25 30

Leu Asn Trp Tyr Gln Gln Thr Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Glu Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Gly Gly Thr Ser
85 90 95

Gly Ser Val Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 351
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 351

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser
20 25 30

Phe Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

```
Val Ala Cys Ile Tyr Ala Glu Asp Ser Asp Tyr Thr Tyr Tyr Ala Ser
    50                  55                  60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95

Cys Ala Arg Glu Ile Leu Tyr Pro Thr Asn Thr Asp Ser Phe Asp Leu
            100                 105                 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  352
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  352

Ala Phe Glu Leu Thr Gln Thr Pro Ser Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Phe Ser Ser Arg
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Ala Tyr Tyr Cys Gln Ala Tyr Val Gly Ile Ser Ser
85 90 95

Gly Gly Tyr Ala Phe Gly Gly Gly Thr Glu Val Val Val Gly
100 105 110

<210> 353
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 353

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr
20 25 30

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Cys Ile Ser Ala Pro Gly Ser Gly Ser Thr Phe Asp Ala Ser Trp
50 55 60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65 70 75 80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Phe Tyr Ala Gly Gly Ser Gly Asp Tyr Phe Asp Leu Trp Gly
100 105 110

```
Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  354
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  354

Gln Ile Val Met Thr Gln Thr Pro Ser Ser Thr Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Ser Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Ser Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Val Leu Ile
        35                  40                  45


Tyr Thr Thr Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Val Tyr Gly Tyr Ser Ser
                85                  90                  95


Asp Asp Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110


<210>  355
<211>  121
<212>  PRT
<213>  Artificial Sequence
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<220>
<223> VH

<400> 355

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Asp Tyr Ala
            20   25   30

Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35   40   45

Phe Ile Asn Ile Gly Gly Ile Ser Ser Val Ala Asn Trp Ala Ile Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Ser Ser Thr Thr Val Asp Leu Lys Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Gly
                85   90   95

Tyr Thr Thr Gly Gly Gly Gly Pro Tyr Tyr Gly Met Asp Leu Trp Gly
            100   105   110

Pro Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 356
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 356

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Met Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile His Ser Trp
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
35 40 45

Tyr Thr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Arg Asn Ser Tyr Ser Asp Phe
85 90 95

Asn Asn Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 357
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 357

Gln Ser Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser Asp
20 25 30

Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

```
Ala Cys Met Tyr Thr Gly Ser Val Glu His Thr Tyr Tyr Ala Asn Trp
    50                  55                  60


Ala Glu Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80


Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95


Ala Arg Ser Pro Thr Gly Tyr Pro Asp Tyr Gly Tyr Gly Gly Phe Ser
            100                 105                 110


Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  358
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  358

Ala Leu Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Ile Tyr Ser Asn
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Tyr Tyr Ser Gly Gly
85 90 95

Pro Asp Met Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 359
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 359

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Tyr Leu Ser Ser His Tyr
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Tyr Ala Thr Gly Ile Ala Ser Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Ser Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Asp
85 90 95

Ser Gln Asp Tyr Tyr Gly Tyr Gly Asn Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
        115

<210> 360
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 360

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Asn Asn
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35   40   45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Gln Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Val His Asp
                85   90   95

Val Tyr Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 361
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 361

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Gly Tyr His
            20   25   30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Gln Tyr Ile Gly
        35   40   45

Ile Ile Gly Ser Asn Gly Val Thr Tyr Tyr Ala Ser Trp Ala Lys Ser
    50   55   60

Arg Ser Thr Ile Thr Arg Asn Thr Asn Glu Asn Thr Val Thr Leu Lys
65   70   75   80

Met Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85   90   95

Ser Ser Gly Trp Gly Ala Arg Phe Asn Leu Trp Gly Gln Gly Thr Leu
            100   105   110

Val Thr Val Ser Ser
        115

<210> 362
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 362

Ala Gln Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asp
20 25 30

Asn Glu Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Lys Ala Ser Thr Leu Thr Ser Gly Val Pro Leu Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Gly Ser Thr
85 90 95

Pro Ser Asp Ser Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 363
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 363

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Thr Ile Ser Ser Tyr His
20 25 30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Gln Tyr Ile Gly
35 40 45

```
Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Ser
    50                  55                  60


Arg Ser Thr Ile Thr Arg Asn Thr Asn Glu Asn Thr Val Thr Leu Lys
65                  70                  75                  80


Met Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95


Ser Ser Gly Trp Gly Ala Arg Phe Asn Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  364
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  364

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asp
            20                  25                  30


Asn Glu Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Lys Ala Ser Thr Leu Thr Ser Gly Val Pro Leu Arg Phe
    50                  55                  60
```

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Gly Ser Thr
85 90 95

Pro Ser Asp Ser Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 365
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 365

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Asn Ala His
20 25 30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Gly Ala Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Thr Asp
85 90 95

Val Gly Tyr Thr Thr Ala Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
        115

<210> 366
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 366

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Thr Ile Ser Ser Tyr
            20   25   30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
        35   40   45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ala Tyr Asp Thr Thr Ser Gly
                85   90   95

Thr Asp Leu Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 367
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 367

```
Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala
1               5                   10                  15


Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Asp
            20                  25                  30


Tyr Asp Met Cys Trp Val Ser Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45


Ile Ala Cys Ile Ile Gly Gly Ser Ser Asp Ser Thr Trp Tyr Ala Ser
    50                  55                  60


Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80


Thr Leu Gln Val Thr Gly Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95


Cys Ala Arg Asn Val Gly Phe Ser Tyr Tyr Asp Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115
```

<210> 368
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 368

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Leu Tyr Asn Asn
20 25 30

Lys Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Glu Phe Ser Cys
85 90 95

Ser Ser Gly Asp Cys Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 369
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 369

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35   40   45

Ile Ile Tyr Ser Ser Gly Ser Thr Trp Phe Ala Asn Trp Val Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65   70   75   80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Ser
                85   90   95

Ala Ala Asp His Gly Asp Lys Phe Lys Leu Trp Gly Gln Gly Thr Leu
            100   105   110

Val Thr Val Ser Ser
        115

<210> 370
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 370

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Ser Ile Ser Cys Gln Ser Ser Lys Asn Ile Phe Asp Asn
            20   25   30

Thr Arg Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Gln
        35   40   45

Leu Ile Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Glu Tyr Ser Ser
85 90 95

Asp Ser Asp Thr Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 371
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 371

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Thr Tyr Tyr
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Tyr Thr Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Asn Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Arg
85 90 95

```
Val Pro Gly Asp Thr Thr Gly Leu Tyr Tyr Phe Asn Leu Trp Gly Pro
            100                 105                 110


Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  372
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  372

Ala Leu Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Glu
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asn Ile Tyr Ser Asn
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr His Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ala Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Tyr Asp Ser Ser Ser
                85                  90                  95


Ser Asp Thr Phe Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 373
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 373

Gly Phe Ser Leu Ser Arg Tyr Trp
1 5

<210> 374
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 374

Ile Asp Asn Gly Asp Thr Ala
1 5

<210> 375
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 375

Thr Arg Glu Gly Ala Asp His Ser Gly Gln Asp Leu
1 5 10

<210> 376
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> LCDR1

<400> 376

Gln Ser Val Ile Ser Asn Asn Asp
1 5

<210> 377
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 377

Arg Ala Ser
1

<210> 378
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 378

Gln Gly Gly Tyr Ala Gly Ile Val Asp Arg Arg Pro
1 5 10

<210> 379
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 379

Gly Phe Ser Phe Ser Ala Thr Tyr Trp
1 5

<210> 380
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 380

Ile Phe Gly Arg Ser Ser Ser Asp Thr
1   5

<210> 381
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 381

Ala Arg Gly Asp Ser Gly His Pro Tyr Tyr Tyr Ser Phe Asn Leu
1   5   10   15

<210> 382
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 382

Gln Ser Ile Gly Gly Tyr
1   5

<210> 383
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 383

Gly Ala Ser
1

<210> 384
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 384

Gln Cys Thr His Gly Thr Arg Ser Asp Trp Ala
1   5   10

<210> 385
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 385

Gly Ile Asp Leu Ser Thr Tyr Ala
1   5

<210> 386
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 386

Ile Tyr Gly Ser Gly Tyr Thr
1 5

<210> 387
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 387

Ala Ser Gly Tyr Gly Ile Ser Ser Gly Asn Phe Leu His Phe Asn Leu
1 5 10 15

<210> 388
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 388

Glu Ser Ile Tyr Phe Asn
1 5

<210> 389
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 389

Arg Ala Ser
1

<210> 390
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 390

Gln Gln Gly Tyr Asp Ser Ser His Ile Asp Asn Ala
1 5 10

<210> 391
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 391

Gly Phe Ser Leu Ser Ser Asn Ala
1 5

<210> 392
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 392

Ile Tyr Thr His Gly Ser Ser
1 5

<210> 393
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 393

Ala Gly Trp Ala Gly Gly Leu Ser Leu
1 5

<210> 394
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 394

Glu Asp Ile Asp Asn Ala
1 5

<210> 395
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 395

Ser Ala Ser
1

<210> 396
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 396

Gln Ser Ala Tyr Gly Gly Thr Tyr Gly Asp Gly
1 5 10

<210> 397
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 397

Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

<210> 398
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 398

Ile Trp Ser Asp Gly Asn Thr
1 5

<210> 399
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 399

Ala Arg Gly Tyr Thr Gly Phe Phe Leu
1 5

<210> 400
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> LCDR1

<400> 400

Gln Ser Ile Gly Ser Ser Tyr
1 5

<210> 401
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 401

Lys Thr Ser
1

<210> 402
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 402

Gln Cys Thr Tyr Tyr Gly Gly Ser Trp Arg Val Ala
1 5 10

<210> 403
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 403

Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

<210> 404
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 404

Ile Trp Ser Asp Gly Asn Thr
1   5

<210> 405
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 405

Ala Arg Gly Tyr Thr Gly Phe Phe Leu
1   5

<210> 406
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 406

Gln Ser Ile Gly Ser Ser Tyr
1   5

<210> 407
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 407

Lys Thr Ser
1

<210> 408
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 408

Gln Cys Thr Tyr Tyr Gly Ser Ser Trp Arg Val Ala
1   5   10

<210> 409
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 409

Gly Leu Asp Phe Ile Ser Ser Tyr
1   5

<210> 410
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 410

Ile Ala Pro Gly Gly Gly Asn Thr
1 5

<210> 411
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 411

Ala Arg Thr Tyr Pro Ser Ile Trp Tyr Phe Gly Leu
1 5 10

<210> 412
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 412

Gln Ser Ile Gly Ser Asn
1 5

<210> 413
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 413

Gly Ala Ser
1

<210> 414
<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 414

Gln Ser Phe Tyr Ala Ala Ser Ser Ala
1   5

<210> 415
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 415

Gly Ser Asp Ile Ser Thr Tyr His
1   5

<210> 416
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 416

Ile Asn Thr Gly Gly Thr Thr
1   5

<210> 417
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 417

Ala Arg Tyr Asp Ala Gly His Ala Phe Phe Asp Leu
1 5 10

<210> 418
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 418

Gln Ser Ile Gly Ser Ser Tyr
1 5

<210> 419
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 419

Ser Ala Ser
1

<210> 420
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
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Gly Phe Ser Phe Ser Ser Arg Tyr Tyr
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Ile Asp Thr Ser Ser Gly Ser Thr
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Ala Arg Asp Leu Tyr His Glu Asn Ser Asp Gly Asp Trp
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Glu Ser Ile Asn Asn Tyr
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Lys Ala Ser
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Gln Ser Tyr Tyr Gly Ala Ser Gly Ser Gly Ser Asn Val
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Gly Ile Asp Leu Asn Asn Tyr Val
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Ala Arg Asp Ser Ser Tyr Tyr Ile Gly Tyr Tyr Phe Asn Leu
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Asp Ala Ser
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Ile Gly Ala Ser Asp Ser Thr
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Asp Ala Ser
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Arg Ala Ser
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Gly Phe Ser Leu Ser Asn Tyr Tyr
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Ile Ser Thr Tyr Gly Asp Thr
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Gln Lys Ile Tyr Asn Asn
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Ser Ala Ser
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Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

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Leu Tyr Arg Asn Asp Ala Ala
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Val Arg Gly Tyr Val Asn Asp Gly Tyr Tyr Asn Leu
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Glu Ser Ile Gly Tyr Arg
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Asp Ala Ser
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Gly Ser Asp Ile Ser Asn Tyr Gly
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Gln Ser Val Tyr Asp Asn Asn Ala
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Ser Ala Ser
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Gly Phe Ser Phe Ser Ser Arg Tyr Tyr
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Ala Arg Ser Val Pro Gly Ser Leu Phe Tyr Phe Gln Leu
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Gln Ser Val Tyr Asn Lys Asn Glu
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Asp Ala Ser
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Gln Gly Ser Tyr Tyr Ser Ser Gly Ser Tyr Thr Ala
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Gly Ile Asp Phe Ser Ser Ser Tyr Tyr
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Ile Ala Thr Gly Gly Gly Asn Thr
1   5

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Ala Arg Thr Tyr Pro Ser Met Trp Tyr Phe Asn Leu
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Gly Val Ser
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Gln Ser Phe Tyr Ala Gly Ser Ser Ala
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Gly Phe Ser Phe Ser Ser Gly Tyr Tyr
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Ile Phe Ala Gly Ser Gly Gly Gly Ala
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Gln Thr Ile Ser Asn Tyr
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Gly Ala Ser
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Arg Ala Ser
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Gln Ser Ile Gly Ser Ser Tyr
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Lys Thr Ser
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Gly Phe Ser Leu Ser Ser Tyr Ser
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Val Tyr Ala Ser Gly Ser Thr
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Ala Arg Gly Asp Val Leu Tyr Ala Phe Asp Pro
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Glu Asn Ile Tyr Ser Tyr
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Tyr Ala Ser
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Gln Tyr Thr Tyr Ser Thr Ser Pro Gly Tyr Ile
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Gly Val Ser Phe Ser Asn Asn Tyr Tyr
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Val Tyr Thr Gly Asp Asp Asp Tyr Thr
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Ala Arg Glu Ile Leu Tyr Pro Ala Asp Thr Asp Ser Phe Asp Leu
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Glu Ser Ile Ser Ser Arg
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Arg Ala Ser
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Ala Arg Ser Pro Tyr Ala Ser Thr Ser Ala Ser Ala Phe Asn Leu
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Glu Ala Ser
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Ala Arg Gly Tyr Thr Ala Trp Ser Leu
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Gln Ala Ser
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Ile Ser Ser Ser Gly Ser Thr
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Glu Ala Ser
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Ile Ser Thr Gly Gly Ser Ala
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Leu Ser Ile Ser Ser Ala
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Asp Ala Ser
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Gln Ser Ile Ser Ser Ser Tyr
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Lys Ala Ser
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Phe Ser Leu Ser Ser Thr Tyr
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Ile Tyr Thr Asp Gly Ser Thr
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Gly Val Ser
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Asp Ala Ser
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Ser Ala Ser
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Gly Ala Ser
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Gly Ile Asp Leu Ser Ser Asn Ala
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Ile Tyr Thr Ser Gly Ser Thr
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Ala Arg Gly Val Thr Ile Asp Trp Phe Asp Leu
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Pro Ser Val Tyr Ser Asn Tyr
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Gly Ala Ser
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Leu Gly Gly Tyr Gly Asp Ile Asn Asp Thr Thr
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Gly Phe Ser Leu Ser Ser Tyr Val
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Ile Asp Tyr Gly Gly Thr Ala
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Ala Arg Gly Gly Tyr Gly Gly Tyr Ile Leu Val Thr Gly Leu
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Gln Thr Ile Ile Ser Tyr
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Gly Ala Ser
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Gly Ile Asp Leu Ser Ser Tyr Ala
1   5

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Ile Tyr Thr Ser Asn Arg Thr
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Gly Arg Tyr Gly Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu
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Gln Ser Gly Asp Asn Tyr
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Gln Ala Ser
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Gly Ile Asp Phe Ser Ser Ser Ser
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Ile Asp Thr Gly Ser Ser Gly Arg Thr
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Thr Arg Tyr Gly Asp Tyr Ala Gly Tyr Gly Tyr Asp Ser Phe Asp Pro
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Gln Asn Ile Asn Asn Trp
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Tyr Ala Ser
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Gly Phe Ser Leu Ser Ser Tyr Asp
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Ile Asn Thr Asp Thr Thr Thr
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Ala Arg Gly Asn Asp Pro Ile Tyr Ile Asp Leu
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Tyr Ala Ser
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Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

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Ile Thr Thr Asn Ser Asp Thr
1   5

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Ala Arg Gly Tyr Thr Thr Phe Thr Leu
1   5

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Gln Asn Ile Tyr Ser Asn
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Gly Ala Ser
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Gly Phe Asp Leu Ser Ser Arg Tyr Trp
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Ile Lys Thr Gly Phe Ser Asn Thr
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Ala Arg Ile Ala Ala Ala Ala Ser Ala Ser Asp Asp Phe Arg Leu
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Lys Ser Val Tyr Asn Lys Trp
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Asp Ala Ser
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Leu Gly His Tyr Asp Ser Ser Ser Asp Arg Phe Val
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Arg Phe Ser Leu Ser Thr Ser Thr
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Ile Asn Gly Gly Gly Ser Ala
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Ala Arg Ser Tyr Asp Ser Tyr Asp Asp Ile Tyr Gly Thr Ser Arg Leu
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Tyr Ala Phe Asp Pro
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Glu Ser Ile Tyr Ala Asn
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Arg Ala Ser
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Gly Val Asp Leu Ser Arg Tyr Ala
1 5

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Ile Trp Tyr Ser Gly Thr Thr
1 5

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Ala Arg Asp Pro Leu Tyr Val Gly Gly Asn Ser Gly Ser Asp Leu
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Gln Ser Ile Gly Ser Ser
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Tyr Ala Ser
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Gln Ser Asn Tyr Gly Ala Ala Ser Ser Ser Tyr Gly Ala
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Gly Ile Asp Phe Ser Ser Ser Phe Tyr
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Thr Tyr Asn Arg Asp Gly Ser Thr
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Gln Ser Val Ser Ser Tyr
1 5

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Gly Ala Ser
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Gln Gly Gly Tyr Tyr Ser Ser Gly Ala Asp Asn Asn Ser
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Gly Leu Ser Leu Ser Ser Tyr Asp
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Ile Trp Ser Gly Gly Thr Thr
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Ala Arg Gly Tyr Val Glu Phe Asp Leu
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Pro Ala Ser
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Gly Phe Ser Phe Asn Asn Asn Tyr Val
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Ile Tyr Val Val Ser Gly Ser Thr
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Ala Arg Asp Gln Leu Tyr Asn Ser Gly Tyr Asp Phe Asp Leu
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Gln Ser Val Tyr Asn Asn Asn Glu
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Gly Ile Asp Phe Ser Ser Ser Tyr Tyr
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Thr Tyr Asn Arg Asp Gly Ser Thr
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Gln Ser Val Ser Asn Tyr
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Gly Ala Ser
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Gln Gly Gly Tyr Tyr Ser Ser Asn Thr Asp Asn Asn Ser
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Gly Phe Ser Leu Ser Ser Tyr Tyr
1 5

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Ile Ser Thr Ala Gly Asn Thr
1 5

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Ala Arg Asp Gly Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu
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Gln Ser Ile Asp Arg Phe
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Asp Ala Ser
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Gln Gln Gly Tyr Tyr Ile Ser Asp Ile His Asn Val
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Gly Phe Ser Leu Ser Ser Tyr Trp
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Ile Tyr Ala Gly Ser Gly Ser Ala
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Gly Arg Gly Asn Tyr Asp Gly Tyr Ile Asn Val Tyr Asp Leu
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Gln Ser Ile Gly Ser Tyr
1   5

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<400> 677

Ala Ala Ala
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<400> 678

Gln Asn Asn Asn Gly Ala Tyr Gly Ser Ala Tyr Val Gly Ala
1   5   10

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Gly Ile Asp Leu Ser Ser Tyr Ala
1   5

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Ile Tyr Val Gly Ser Thr Thr Thr
1   5

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Ala Arg Ala Tyr Asp Ser Gly Tyr Ile Gly Asn Ser Phe Tyr Ile Phe
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His Pro

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Gln Thr Ile Ser Ser Arg
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Ser Ala Ser
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Ala Gly Tyr Gly Gly Leu Gly Ile Thr Ala
1 5 10

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Gly Phe Ser Leu Ser Ser Asn Ala
1 5

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Ile Asn Thr Gly Gly Ser Thr
1 5

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Ala Arg Asp Val Gly Asp Ser Arg Gly Tyr Tyr Trp Gly Leu
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Glu Asp Ile Tyr Ser Leu
1   5

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<400> 689

Asp Ala Ser
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Gln Gln Gly Tyr Thr Thr Tyr Thr Thr Val Asp Asn Ile
1   5   10

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<400> 691

Gly Ile Asp Leu Ser Ser Tyr Ala
1   5

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<400> 692

Ile Tyr Thr Ser Asn Arg Thr
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Gly Arg Tyr Gly Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu
1   5   10   15

<210> 694
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Gln Ser Gly Asp Asp Tyr
1 5

<210> 695
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Ala Ala Ser
1

<210> 696
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Gln Asn Tyr Cys Ala Gly Ser Gly Val Cys Leu Gly Val Ala
1 5 10

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<400> 697

Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

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<400> 698

Leu Tyr Arg Asn Asp Ala Ala
1 5

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Val Arg Gly Tyr Val Asn Asp Gly Tyr Tyr Asn Leu
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Glu Ser Ile Gly Tyr Arg
1 5

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<400> 701

Asp Ala Ser
1

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Gln Gln Asp Tyr Ser Tyr Ser Ile Thr Asp Asn Cys
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<400> 703

Gly Phe Ser Phe Ser Ser Gly Tyr Asp
1 5

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Ile Tyr Ala Gly Ser Asn Asn Asn Thr
1 5

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<400> 705

Ala Arg Ala Ala Gly Gly Tyr Ala Asp Tyr Ala Tyr Val Met Gly Asp
1 5 10 15

Tyr Phe Asn Phe
20

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Glu Asp Ile Tyr Ser Ile
1 5

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Ser Ala Ser
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Gln Gln Gly Tyr Ser Ser Ser Asn Val Asp Asn Val
1 5 10

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Gly Phe Asp Phe Ser Ser Asn Tyr Tyr
1 5

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Asp Ser Gly Ser Ser Gly Ser Thr
1 5

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<400> 711

Val Arg Asp Asp Val Gly Ser Ser Tyr Glu Tyr Tyr Phe Ser Leu
1 5 10 15

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Gln Ser Ile Gly Ser Phe
1 5

<210> 713
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<400> 713

Gln Ala Ser
1

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<400> 714

Gln Thr Tyr Phe Gly Ser Asp Ser Tyr Val
1 5 10

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<400> 715

Gly Phe Ser Phe Ser Ser Gly Gly Trp
1 5

<210> 716
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Ile Tyr Val Gly Ser Ser Gly Thr Thr
1 5

<210> 717
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<400> 717

Ala Arg Gly Ala Val Tyr Gly Gly Gly Ser Tyr Asp Asn Phe His Leu
1 5 10 15

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<400> 718

Gln Ser Ile Gly Ser Tyr
1 5

<210> 719
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<400> 719

Ala Ala Ser
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Gln Gln Gly Tyr Asn Ile Ser Asn Leu Asp Asn Thr
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Gly Phe Ser Phe Ser Arg Asn Asn Tyr
1 5

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Ile His Asp Gly Asn Ser Val Gly Ile
1   5

<210> 723
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<400> 723

Ala Arg Met Ser Tyr Thr Asn Asp Trp Asp Pro Ile
1   5   10

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<400> 724

Glu Asn Ile Tyr Ser Leu
1   5

<210> 725
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Leu Ala Ser
1

<210> 726
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<400> 726

Gln Gly Tyr Tyr Tyr Ser Ser Ser Thr Ser Tyr Glu Asn Ala
1   5   10

<210> 727
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<400> 727

Gly Phe Ser Leu Ser Asp Tyr Asn
1   5

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<400> 728

Ile Ser Leu Gly Gly Thr Thr
1 5

<210> 729
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Ala Arg Asp Pro Ala Gly Gly Asn Trp Ala Glu Leu Asp Leu
1 5 10

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<400> 730

Gln Ser Ile Ser Ser Trp
1 5

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Asp Ala Ser
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Gln Gln Gly Ser Thr Ile Ser Asn Val Asp Asn Ala
1   5   10

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Gly Leu Asp Phe Ser Ser Ser Tyr Trp
1   5

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<400> 734

Ile His Ala Gly Ser Ser Gly Thr Thr
1   5

<210> 735
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<400> 735

Ala Arg Gly Ala Val Tyr Gly Gly Gly Ser Tyr Asp Asn Phe Asn Leu
1 5 10 15

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Gln Ser Ile Gly Thr Tyr
1 5

<210> 737
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Ala Ala Ser
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<400> 738

Gln Gln Gly Tyr Ser Ala Asp Asn Val Ala Asn Ser
1 5 10

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Gly Phe Ser Leu Ser Asn Tyr Ser
1 5

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Ile Asn Thr Tyr Gly Ser Ala
1 5

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Ala Arg Asp Ala Gly Gly Ser Thr Val Pro Trp Phe Phe Asp Val
1 5 10 15

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Gln Thr Ile Ser Asn Tyr
1 5

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Asp Ala Ser
1

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Gln Gln Gly Tyr Ala Asp Ser Asn Val Asp Asn Val
1 5 10

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Gly Phe Ser Phe Ser Asp Arg His Tyr
1 5

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<400> 746

Ile Tyr Thr Gly Lys Asp Ser Ile
1 5

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<400> 747

Ala Arg Asp Leu Leu Tyr Gly Ser Ser Ser Gly Tyr Leu His Thr
1 5 10 15

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<400> 748

His Asn Ile Tyr Ser Asn
1 5

<210> 749
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<400> 749

Tyr Ala Ser
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Gln Ser Ala Tyr Tyr Gly Ser Ile Asp Ile Thr
1   5   10

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Gly Phe Ser Phe Ser Ser Asn Ala
1   5

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Ile Tyr Val Asp Ser Ile Gly Ser Thr
1 5

<210> 753
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Ala Arg Gly Asp Asn Ile Ala Tyr Phe Met Leu
1 5 10

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<400> 754

Glu Ser Ile Thr Ser Phe
1 5

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Lys Ile Ser
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Gln Gly Tyr Tyr Tyr Tyr Ser Asn Val Val Tyr Ala Ser Asn Gly
1 5 10 15

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Gly Phe Thr Ile Ser Ser Tyr Glu
1 5

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Ile Ala Ser Gly Gly Ser Thr
1 5

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<400> 759

Ala Arg Gly Tyr Val Glu Phe Lys Leu
1 5

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Gln Ser Ile Gly Ser Tyr
1 5

<210> 761
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<400> 761

Arg Ala Ser
1

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<400> 762

Gln Gly Tyr His Ser Thr Ser Gly Tyr Val Ala
1 5 10

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<400> 763

Gly Phe Ser Phe Ser Ser Ser Tyr Tyr
1 5

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<400> 764

Ile Asp Thr Ala Asp Ala Tyr Thr
1 5

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Ala Arg Glu Arg Ile Ala Tyr Asn Thr Asp Tyr Phe Asn Leu
1 5 10

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Gln Ser Leu Tyr Asn Tyr Asn Asn
1 5

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Ser Ala Ser
1

<210> 768
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Gln Gly Tyr Tyr Ser Gly Ala Val Tyr Thr
1 5 10

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Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

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Ile Trp Ser Asp Gly Asp Thr
1 5

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Ala Arg Gly Tyr Thr Asn Tyr Asp Leu
1 5

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<400> 772

Gln Ser Leu Tyr Ser Asp Pro Tyr
1 5

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Gln Ala Ser
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Gln Gly Thr Tyr Tyr Ser Asp Gly Trp Tyr Ser Asp
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<220>
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<400> 775

Gly Phe Thr Leu Ser Ser Phe Tyr
1   5

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<400> 776

Ile His Gly His Gly Asn Thr
1 5

<210> 777
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Ala Arg Gly Gly His Pro Asn Met Asp Leu
1 5 10

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<400> 778

Gln Asn Ile Asn Asn Tyr
1 5

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Tyr Ala Ser
1

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Gln Cys Ser Tyr Tyr Asp Ala Ser Ile Phe Gly Ala
1   5   10

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Gly Phe Ser Phe Ser Ser Ser Tyr Tyr
1   5

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<400> 782

Ile Asp Thr Val Asp Asn Tyr Thr
1   5

<210> 783
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Ala Arg Glu Arg Ile Ala Tyr Asn Thr Asp Tyr Phe Asn Leu
1 5 10

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Gln Ser Leu Tyr Asn Tyr Asn Asn
1 5

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Ser Val Ser
1

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Gln Gly Tyr Tyr Ser Gly Ala Val Tyr Thr
1 5 10

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Gly Phe Ser Leu Asn Tyr Tyr Ser
1 5

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<400> 788

Ile Asn Thr Gly Gly Gly Thr
1 5

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Ala Arg Ser Asp Gly Thr Gly Ile Thr Tyr Tyr Asn Leu
1 5 10

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Glu Thr Ile Tyr Ser Asn
1 5

<210> 791
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Arg Ala Ser
1

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Gln Gly Tyr Tyr Asn Thr Gly Ile Thr Gly
1 5 10

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Gly Phe Ser Leu Ser Thr Tyr Ala
1 5

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<400> 794

Ile Asn Thr Asp Ser Gly Asp Thr
1   5

<210> 795
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Ala Arg Asn Pro Gly Asp Asp Val Asn Leu
1   5   10

<210> 796
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Gln Ser Val Tyr Asn Asn Asn Asp
1   5

<210> 797
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<400> 797

Arg Thr Ser
1

<210> 798
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<400> 798

Gln Gly Tyr Tyr Ser Gly Val Ile Tyr Val
1   5   10

<210> 799
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<400> 799

Gly Ile Asp Leu Ser Ser Tyr Ser
1   5

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Ile Asn Thr Gly Gly Arg Gly
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Ala Arg Asp Ala Gly Ser Ser Arg Gly Tyr Tyr Arg Asp Leu
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Glu Asp Ile Tyr Ser Leu
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Asp Ala Ser
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Gly Ile Asp Leu Ser Arg His Ala
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Ile Tyr Ala Ser Gly Ser Thr
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Ala Arg Gly Ile Thr Ile Glu Trp Phe Asp Leu
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Gly Ala Ala
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Ala Arg Gly Tyr Thr His Gly Tyr Leu
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Ser Ala Ser
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Gly Phe Ser Leu Ser Thr Tyr Ala
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Glu Asn Ile Tyr Ser Ser
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Asp Ala Ser
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Gln Gln Gly Tyr Ser Thr Ser Asn Leu Val Asn Pro
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Gly Phe Ser Phe Ser Ser Asp Tyr Tyr
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Gly Phe Ser Leu Ser Asn Tyr Ala
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Ile Tyr Ala Ser Gly Thr Thr
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Ala Phe Asp Pro
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Arg Ala Ser
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Gly Phe Thr Ile Ser Ser His His
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Ile Tyr Pro Ser Gly Thr Thr
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Val Arg Asp Val Gly Tyr Phe Thr Leu
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Gln Gly Tyr Tyr Ser Asp Val Thr Asn Ala
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Arg Phe Ser Leu Ser Thr Ser Thr
1 5

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Ile Asn Gly Gly Gly Ser Ala
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Ala Arg Ser Tyr Asp Ser Tyr Asp Asp Ile Tyr Gly Thr Ser Arg Leu
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Tyr Ala Phe Asp Pro
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Glu Ser Ile Tyr Ser Asn
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Arg Ala Ser
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Gln Gln Gly Tyr Ser Ser Ser Asp Val Asp Asn Ala
1 5 10

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Gly Ile Asp Leu Ser Ser Tyr Gly
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Ile Ser Thr Ile Gly Asp Thr
1 5

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Ala Arg Tyr Thr Asn Ser Gly Tyr Ala Met Met Tyr Tyr Phe Asn Leu
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Gln Asn Ile Val Asn Ala
1 5

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Val Ala Ser
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Gln Ser Tyr Tyr Tyr Ser Ser Gly Thr Ser Tyr Gly Gln Asn Ala
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Gly Ile Asp Phe Ser Ser Ser Tyr Tyr
1 5

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Ile Asp Thr Val Asp Asp Tyr Thr
1 5

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Ala Arg Glu Arg Ile Asp Asn Asn Thr Asp Cys Phe Asp Leu
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Gln Ser Val Val Ser Lys Asn Arg
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Leu Ala Ser
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Gln Gly Tyr Tyr Ser Gly Ala Ile Tyr Ala
1 5 10

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Gly Ile Asp Leu Asn Asn Asn Ala
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Ile Ser Thr Ala Gly Thr Thr
1 5

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Ala Arg Ala Ala Tyr Phe Ser Tyr Gly Tyr Ile Asn Leu
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Gln Asn Ile Gly Asn Ala
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Ser Ala Ser
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Gln Ser Tyr Val Tyr Ser Asp Gly Asn Val
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Gly Phe Ser Leu Ser Ser Tyr Asp
1   5

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Val Ser Thr Gly Gly Ser Ala
1   5

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Ala Arg Ile Ile Ser Gly Gly Arg Asp Leu
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Glu Ser Ile Ser Ser Arg
1 5

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Ser Ala Ser
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Gln Ser Tyr Tyr Tyr Ser Ser Thr Ala Ser Tyr Ala Ser Asn Asn Ala
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Gly Phe Ser Leu Asn Thr Tyr Val
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Ile Asp Tyr Gly Gly Ala Pro
1 5

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Ala Arg Gly Gly Tyr Gly Gly Tyr Val Leu Val Thr Val Leu
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Gln Asn Ile Tyr Ser Ser
1 5

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Gln Ala Ser
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Gln Thr Tyr Tyr Gly Gly Ser Thr Tyr Gly Asn Gly
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Gly Phe Ser Leu Ser Asn Tyr Tyr
1 5

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Ile Ser Thr Ala Gly Asn Thr
1 5

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Ala Arg Asp Gly Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu
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Gln Ser Ile Asp Arg Phe
1 5

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Asp Ala Ser
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Gln Gln Gly Tyr Ser Ile Ser Asp Ile Asp Asn Val
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Gly Phe Ser Phe Asn Ser Asn Tyr Trp
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Ile Met Thr Gly Asp Gly Ser Thr
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Ala Arg Gly Tyr Asp Gly Ile His Gly Gly Asp Asn Tyr Gly His Val
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Phe Asn Leu

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Glu Asn Ile Tyr Ser Leu
1 5

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Arg Ala Ser
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Gln Ser Tyr Tyr Ile Asn Ser Ser Asn Ser
1 5 10

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Glu Phe Asp Phe Asn Asn Asn Ala
1 5

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Ile Tyr Ile Gly Asn Gly Gly Thr
1 5

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Ala Arg Gly Glu Asn Ile Ala Tyr Phe Ile Leu
1 5 10

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Gln Ser Ile Asn Ser Trp
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Lys Ala Ser
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Gln Gly Tyr Tyr Tyr Tyr Ser Ser Ser Asn Tyr Ala Ser Asn Ala
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Gly Phe Ser Leu Ser Ser Tyr Trp
1 5

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Ile Tyr Gly Gly Ser Gly Asp Lys
1 5

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Ala Arg Gly Gly Asp Gly Asp Gly Thr Tyr Ser Ser Leu
1 5 10

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Glu Ser Val Ala Gly Lys Asn
1 5

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Gly Thr Ser
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Gly Ile Asp Leu Ser Ser Tyr Ala
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Ile Thr Tyr Gly Gly Ser Thr
1 5

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Ala Arg Leu Arg Ala Pro Tyr Tyr Tyr Arg Ile Tyr Phe Asn Leu
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Gln Asn Ile Ile Ser Ala
1 5

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Asp Ala Ser
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Gln Gly Ala Tyr Asp Thr Asn Ile Asn Asp
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Gly Phe Ser Phe Ser Ser Tyr Trp
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Ile Ala Thr His Ser Gly Thr Asp
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Ala Arg Asp Pro Tyr Gly Phe Asn Gly Asp Tyr Phe Ser Leu
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Gln Ser Val Tyr Asn Ser Asn Tyr
1 5

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Lys Ala Ser
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Ala Gly Tyr Lys Ser Tyr Thr Asn Asp Asp Asn Gly
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Gly Phe Ser Leu Asn Asn Tyr Gly
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Ile Asn Tyr Gly Gly Ile Ala
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Ala Arg Gly Tyr Gly Tyr Tyr Ser Ala Gly Asn Leu
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Gln Ser Val Tyr Asp Asn Asn Tyr
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Asp Ala Ser
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Ala Gly Glu Tyr Ser Cys Leu Ser Asp Asp Cys Ile Ala
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Gly Phe Ser Leu Ser Asn Tyr Tyr
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Ile Gly Ser Gly Val Ser Thr
1 5

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Ala Arg Asp Met Tyr Val Gly Asn Trp Gly Asp Trp Gly Leu
1 5 10

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Gln Ser Ile Ser Asn Asn
1 5

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Ser Val Ser
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Gly Phe Ser Leu Ser Arg Tyr Asp
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Ile Trp Ser Asp Gly Asp Thr
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Gly Arg Gly Tyr Thr Ala Trp Asn Leu
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Gln Ala Ser
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Gln Gly Thr Tyr Tyr Ser Ser Gly Trp Tyr Phe Ala
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Gly Phe Ser Leu Asn Ser Tyr Asp
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Ser Ala Ser
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Gly Phe Ser Leu Ser Ser Asn Ala
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Ile Tyr Ala Ser Asn Arg Thr
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Gln Ser Gly Asp Asn Tyr
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Leu Ala Ser
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Gly Arg Gly Leu Thr Arg Leu Asp Leu
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Gly Phe Ser Leu Ser Ser Tyr Asp
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Ile Tyr Leu Thr Asp Thr Thr
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Gly Leu Asp Phe Ser Thr Asn Tyr Tyr
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Ile Ser Thr Ser Ser Gly Asn Thr
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Ala Arg Cys Asp Ile Val Tyr Val Gly Tyr Gly Tyr Ala Ser Arg Leu
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Glu Ser Val Tyr Asn Asn Asn Asn
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Gly Ala Ser
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Gly Phe Thr Ile Ser Ser Asp Tyr Asp
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Thr Arg Ala Ser Gly Phe Thr Tyr Phe Glu Leu
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Gln Ser Val Tyr Asn Asn Lys Asn
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Tyr Ala Ser
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Gln Gly Glu Phe Ser Cys Ser Ser Ser Asp Cys Phe Ala
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Gly Phe Asp Leu Ser Ser Tyr Ala
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Ile Tyr Gly Gly Ser Gly Ser Thr
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Ala Arg Ala Tyr Asp Ser Gly Tyr Ile Gly Asn Ser Phe Tyr Ala Phe
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Gln Thr Ile Ser Ser Thr
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Ser Ala Ser
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Gly Phe Ser Leu Ser Ser Tyr Tyr
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Ile Ser Thr Ala Gly Asn Thr
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Thr Arg Asp Gly Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu
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Asp Ala Ser
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Gly Ile Asp Leu Asn Asn Asn Ala
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Ile Ser Thr Ala Asp Thr Thr
1   5

<210> 999
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Gln Asn Ile Gly Asn Ala
1   5

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Gly Ala Ser
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Gln Ser Tyr Val Tyr Ser Asp Gly Asn Val
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Phe Asn Leu

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Glu Asn Ile Tyr Thr Leu
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Arg Ala Ser
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Gln Gly Tyr Tyr Val Asp Ser Gly Asn Thr
1   5   10

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Gly Phe Ser Leu Ser Ser Tyr Tyr
1   5

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Ile Ser Thr Ala Gly Asn Thr
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Glu Ser Ile Asp Arg Phe
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Asp Ala Ser
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Gln Gln Gly Tyr Ser Ile Ser Asp Ile Asp Asn Val
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Gly Leu Ser Phe Ser Asp Arg Tyr Trp
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Gln Asn Ile Tyr Ser Asn
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Asp Ala Ser
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Gly Phe Thr Leu Ser Ser Tyr Leu
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Ile Gly Thr Tyr Ser Gly Ala Thr
1 5

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Ala Arg Asp Tyr Asn Phe Ala Leu
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Glu Ser Val Tyr Asn Asn Asn Tyr
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Ala Gly Tyr Lys Ser Ser Trp Thr Asp Gly Asn Ala
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Gly Phe Ser Leu Asn Ser Tyr Val
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Ile Asp Tyr Gly Gly Ala Pro
1 5

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Ala Arg Gly Gly Tyr Gly Gly Tyr Val Leu Val Thr Ala Leu
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Glu Asn Ile Tyr Ser Tyr
1 5

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Gln Ala Ser
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Gln Thr Tyr Tyr Gly Gly Ser Thr Tyr Gly Asn Gly
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Gly Phe Thr Leu Ser Ser Arg Tyr Tyr
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Ile Tyr Ala Gly Ser Leu Arg Thr
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Ala Arg Ser Pro Gly Val Ala Ala Ser Tyr Pro Glu Leu
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Gln Ser Val Gly Asn Ala Asp Asn
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Tyr Ala Ala
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Gly Phe Asp Phe Ser Ser Thr Tyr Trp
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Ile Asp Asp Ser Tyr Ala Tyr Thr
1 5

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Ala Arg Asp Gly Tyr Pro Gly Tyr Gly Val Gly Ser Phe Asn Leu
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Glu Ser Val Tyr Ser Asn Asn Arg
1 5

<210> 1043
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Leu Ala Ser
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Ala Gly Tyr Lys Ser Tyr Ser Asp Asp Gly Thr Gly
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Gly Phe Ser Leu Ser Ser Tyr Val
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Ile Asp Tyr Gly Gly Ala Pro
1 5

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Ala Arg Gly Gly Tyr Gly Gly Tyr Val Leu Val Thr Val Leu
1 5 10

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Gln Asn Ile Tyr Ser Ser
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Gln Ala Ser
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Gln Thr Tyr Tyr Gly Gly Ser Thr Tyr Gly Asn Gly
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Gly Phe Asp Leu Ser Ile Asn Val
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Ile Asp Asn Gly Asp Gly Ser Thr
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Ala Arg Pro Gly Thr Phe Thr Tyr Gly Gly Asn Thr Tyr Pro Gly Ser
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Phe Val Leu

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Gln Ser Ile Ser Asn Ala
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Thr Ala Ser
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Gln Asn Tyr Tyr Val Asn Ile Ile Gly Ile Gly
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Gly Phe Ser Leu Ser Ser Tyr Ala
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Ile Tyr Gly Ser Gly Ser Thr
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Ala Arg Ser Lys Gly Tyr Asn Tyr Asn Leu Trp Asn Leu
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Asp Ala Ser
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Gln Thr Tyr Ser Tyr Ser Gly Ser Ser Ser Ala Asn Pro
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Gly Phe Ser Leu Ser Ser Tyr Asp
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Ile Tyr Leu Thr Asp Thr Thr
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Ala Arg His Leu Asp Thr Ser Ser Gly Gly Phe Tyr Phe Asn Leu
1   5   10   15

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Asp Ala Ser
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Ile Tyr Val His Ser Gly Thr Thr
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Ala Arg Gly Arg Ser Gly Tyr Tyr Ala Asp Ala Phe Asp Thr
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Gln Ser Val Tyr Asn Asn Asn Asn
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Gln Gly Thr Asp Ser Ser Ser Gly Trp Glu His Ala
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Gly Leu Asp Phe Ser Ser Thr Pro Tyr
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Ile Tyr Thr Gly Ser Val Ile Tyr Thr
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Leu

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Gln Ser Ala Tyr Tyr Ser Ser Ser Ala Thr Asp Met Ala
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Gly Phe Ser Leu Ser Ser Tyr His
1   5

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Ile Tyr Ala Gly Ser Gly Asn Thr
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Ala Arg Gln Pro Gly Gly Gly Ala Ser Asp Thr Gln Leu Asp Leu
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Gln Ser Val Phe Asp Asn Asn Gln
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Arg Ala Ser
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Leu Gly Gly Tyr Ser Ser Ser Ser Asp Thr Val
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Gly Phe Ser Phe Ser Ser Arg Phe Trp
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Ile Tyr Gly Gly Ser Thr Ser Ala Thr
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Thr Arg Leu Pro Thr Tyr Asp Ala Tyr Val Phe Asn Leu
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Glu Ala Ser
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Gly Gly Tyr Lys Ser Asn Asn Val Asp Gly Tyr Ala
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Gly Phe Ser Leu Asn His Tyr His
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Ile Asp Asn Ser Gly Tyr Ile
1 5

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Gly Lys Tyr Tyr Ser Gly Gly Ser Tyr Asp Leu
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Gln Ser Val Trp Asn Asn Asn Trp
1 5

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Glu Thr Ser
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Gln Gly Glu Phe Ser Cys Ser Ser Asp Asp Cys Asn Ala
1 5 10

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Gly Phe Ser Leu Ser Gly His Asp
1 5

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Ile Gly Ser Asn Ser Lys Thr
1   5

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Gln Ser Ile Gly Ser Asp
1   5

<210> 1103
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Ala Ala Ser
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Gln Cys Thr Tyr Val Gly Ser Thr Tyr Leu Gly Ala
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Gly Ile Asp Leu Ser Ser Tyr Ala
1   5

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Ile Ser Ser Ser Gly Ser Thr
1 5

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Ala Arg Asp Gly Asp Ser Gly Arg Gly Tyr Tyr Phe His Phe
1 5 10

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Glu Asp Ile Tyr Ser Leu
1 5

<210> 1109
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Asp Ala Ser
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Gln Gln Gly Tyr Thr Thr Val Thr Ile Val Asp Asn Val
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Gly Phe Ser Phe Ser Ser Ser Tyr Trp
1   5

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<400> 1112

Met Ile Thr Gly Arg Gly Asn Thr
1   5

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Ala Arg Gly Pro Gly Gly Ala Asp Pro Ile Asn Leu
1 5 10

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Gln Asn Ile Tyr Asn Asn
1 5

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Leu Ala Ser
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Gln Ser Thr Tyr Asp Gly Ser Ser Tyr Val Pro Asn Ala
1 5 10

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Gly Ile Asp Leu Ser Ser Tyr Ala
1 5

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Ile Tyr Ala Ser Asp Arg Thr
1 5

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Gly Arg Tyr Gly Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu
1 5 10 15

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Gln Ser Gly Asp Asn Tyr
1   5

<210> 1121
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<400> 1121

Leu Ala Ser
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Gln Asn Tyr Cys Ala Gly Ser Gly Val Cys Val Gly Val Ala
1   5   10

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Gly Ile Asp Leu Ser Ser Tyr Ala
1   5

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Ile Tyr Gly Gly Ser Gly Ser Thr
1 5

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Ala Arg Ala Tyr Asp Ser Gly Tyr Ile Gly Asn Ser Phe Tyr Ile Phe
1 5 10 15

Asp Pro

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Gln Ser Ile Ser Ser Arg
1 5

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Ser Ala Ser
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Ala Gly Tyr Gly Gly Leu Gly Ile Thr Ala
1 5 10

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Gly Phe Ser Leu Ser Asn Tyr Tyr
1 5

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Ile Ser Thr Ala Gly Asn Thr
1   5

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Ala Arg Asp Gly Ala Gly Asp Ser Asn Tyr Tyr Arg Asn Leu
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Gln Ser Ile Asp Arg Phe
1   5

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Asp Ala Ser
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Gln Gln Gly Tyr Ser Ile Ser Asp Ile Asp Asn Val
1   5   10

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<400> 1135

Gly Phe Ser Leu Ser Ser His Ala
1   5

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Ile Asp Thr Asp Ala Ser Ala
1   5

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Ala Arg Asp Gly Gly Tyr Thr Asp Tyr Ser Tyr Tyr Ala Met Asp Leu
1   5   10   15

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<400> 1138

Glu Thr Ile Tyr Val Asn
1   5

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Arg Ala Ser
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His Gln Ala Tyr Arg Arg Ser Asp Val Gly Asn Ile
1   5   10

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Gly Phe Ser Leu Ser Ser Tyr Asp
1   5

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Ile Thr Thr Asp Gly Gly Thr
1   5

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Ala Arg Gly Tyr Ala Ser Phe Asn Leu
1   5

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Gln Ser Val Leu Ser Asn Ser Tyr
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Ala Ala Ser
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Gln Gly Thr Asp Tyr Ser Gly Gly Trp Tyr Val Ala
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Gly Ile Asp Leu Ser Ser Tyr Ala
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Ile Tyr Thr Thr Asn Arg Thr
1 5

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Gly Arg Tyr Gly Arg Gly Ser Gly Gly Tyr Tyr Tyr Gly Met Asp Leu
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Gln Ser Gly Asp Asn Tyr
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Gln Ala Ser
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Gly Phe Asp Phe Ser Ser Asp Ala
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Ile Tyr Val Gly Ser Val Gly Ser Ser
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Ala Arg Gly Glu Asn Ile Ala Tyr Phe Thr Phe
1 5 10

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Gln Ser Ile Asn Ser Trp
1 5

<210> 1157
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Lys Ala Ser
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Gln Gly Tyr Tyr Tyr Tyr Ser Ser Ser Asn Phe Ala Ser Asn Ala
1   5   10   15

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<400> 1159

Gly Leu Ser Leu Ser Ser Tyr Asp
1   5

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Ile Trp Ser Gly Gly Ser Thr
1   5

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Ala Arg Gly Tyr Val Glu Phe Asp Leu
1   5

<210> 1162
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<400> 1162

Gln Ser Leu Tyr Ser Asn Asn Tyr
1   5

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Pro Ala Ser
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Gln Gly Thr Phe Tyr Asp Ser Gly Trp Leu Ser Ala
1 5 10

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Gly Phe Ser Leu Asn Ser Tyr Tyr
1 5

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Ile Asn Gly Tyr Asp Asn Thr
1 5

<210> 1167
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Ala Arg Asp Pro Gly Gly Ala Ser Gly Thr Gly Arg Leu Asp Leu
1 5 10 15

<210> 1168
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Gln Ser Ile Ser Thr Ala
1 5

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Asp Ala Ser
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Gln Cys Thr Tyr Tyr Asp Ala Tyr Asp Val Gly Ala
1 5 10

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Gly Ile Asp Leu Ser Ser Tyr Trp
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Thr Ala Ser
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Gly Phe Ser Leu Asn Asn Tyr Asp
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Ile Asp Thr Gly Gly Ser Ala
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Ala Arg Gly Tyr Ile His Gly Tyr Leu
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Ser Ala Ser
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Gln Gly Tyr Tyr Ser Ser Ala Ala Tyr Val
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Gly Phe Ser Leu Ser Thr Tyr Val
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Ile Tyr Gly Gly Gly Thr Ile
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Ala Arg Asp Gly Ser Ser Ser Gly Asp Pro Gly Phe Asn Leu
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Lys Ala Ser
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Gly Phe Ser Leu Ser His Tyr His
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Thr Leu Asn Asn Gly Arg Ile
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Ala Lys Tyr Phe Val Ser Glu Ser Tyr Asp Leu
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Gln Ser Val Tyr Asn Asp Asn Trp
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Gly Ala Ser
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Gly Ile Asp Leu Ser Ser Tyr Asp
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Ile Ser Thr Gly Gly Asp Thr
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Asp Thr Ser
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Gln Ser Tyr Tyr Tyr Ile Thr Ser Ser Tyr Ala Ile Thr
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Gly Ser Asp Ile Ser Gly Tyr Ala
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Glu Asp Ile Tyr Ser Tyr
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Arg Ala Ser
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Gln Ser Tyr Tyr Tyr Ser His Ser Thr Thr Tyr Ser Asn Val
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Gly Phe Ser Leu Ser Thr Tyr Ala
1 5

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Asn Thr Arg Ser Gly Ile Ile
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Ala Arg Asp Leu Tyr Ala Asp Val Ser Gly Tyr Tyr Leu Gly Leu
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Gln Ser Leu Tyr Asn Asn Lys Asn
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Tyr Ala Ser
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Gln Gly Glu Phe Ile Cys Ser Ser Ala Asp Cys Val Val
1 5 10

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Gly Phe Ser Leu Ser Tyr Tyr Tyr
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Thr Gly Gly Gly Gly Asp Thr
1 5

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Ala Arg Gly Thr Asp Gly Ala Ala His Thr Gly Phe Ala Leu
1 5 10

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Glu Asp Ile Ser Ser Arg
1 5

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Leu Ala Ser
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Gln Ser Ser Ser Tyr Gly Thr Ser Thr Ile Tyr Gly Thr
1 5 10

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Gly Phe Ser Leu Ser Asn Phe Tyr
1 5

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Ile Ser Thr Gly Gly Ser Ala
1 5

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Ala Arg Gly Ser Gly Thr Asp Gly Ala Trp Leu Tyr Tyr Gly Ile Asp
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Leu

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Glu Asn Ile Gly His Ala
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Arg Thr Ser
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Gln Ile Asn Tyr Gly Gly Gly Ser Gly Gly Tyr Phe Ala
1 5 10

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Gly Phe Ser Phe Ser Ser Ser Tyr Tyr
1 5

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Tyr Thr Tyr Ser Gly Asp Thr
1 5

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Ala Lys Ala Gly Tyr Gly Gly Tyr Gly Tyr Pro Ile Phe Asn Leu
1 5 10 15

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Gln Ser Ile Gly Ser Ser
1 5

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Tyr Val Ser
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Gln Ser Tyr Tyr Gly Ser Gly Thr Thr Val Phe Trp Ala
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Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

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Ile Trp Ser Gly Gly Thr Thr
1   5

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Ala Arg Gly Leu Gly Asp Arg Gly Ser Ser Asp Tyr Tyr Met Pro Leu
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Lys Leu

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Glu Asp Ile Glu Ser Tyr
1 5

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Ser Thr Ser
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Gln Cys Thr Tyr Asp Gly Ser Ser Ala Val Trp Gly Ala
1 5 10

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Gly Phe Ser Leu Ser Ser Tyr Tyr
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Ile Ser Thr Gly Gly Ser Ala
1 5

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Ala Arg Gly Trp Arg Tyr Glu Asp Leu
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Gln Thr Val Tyr Asn Asn Asn Tyr
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Asp Ala Ser
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Gln Gly Thr Tyr Tyr Asp Asn Ala Trp Tyr His Thr
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Gly Ile Asp Leu Ser Ser Tyr Val
1 5

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Ile Asp Tyr Gly Gly Thr Ala
1   5

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Ala Arg Gly Gly Tyr Gly Gly Tyr Thr Leu Val Thr Ala Leu
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Gln Ser Ile Ser Ser Tyr
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Ser Thr Ser
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Gln Thr Tyr Tyr Gly Gly Gly Pro Phe Gly Asn Gly
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Gly Phe Ser Leu Ser Ser Tyr Gly
1   5

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Ile Ser Ser Asn Asp Asn Lys
1 5

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Val Arg Asn Gly Val Tyr Asn Thr Gly Asn Tyr Phe Asp Leu
1 5 10

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Gln Ser Leu Tyr Asn Asn Lys Asn
1 5

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Gln Gly Glu Phe Asp Cys Asp Ser Asp Asp Cys Phe Ala
1   5   10

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Gly Phe Ser Leu Ser Thr Tyr Ala
1   5

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Ile Tyr Thr Gly Gly Ser Thr
1   5

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Thr Arg Asp Leu Gly Ala Thr Tyr Asp Tyr Phe Asp Leu
1 5 10

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Gln Ser Ile Ser Thr Ala
1 5

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Asp Thr Ser
1

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Gln Gln Gly Tyr Arg His Thr Asn Val Asp Asn Pro
1 5 10

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Gly Phe Ser Leu Ser Lys Tyr Asp
1 5

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Ile Gly Ala Ser Asp Arg Thr
1 5

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Ala Arg Glu Tyr Pro Asp Ala Arg Gly Tyr Tyr Tyr Asn Leu
1 5 10

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Gln Ser Ile Ser Asp Leu
1   5

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Asp Ala Ser
1

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Gln Gln Gly Tyr Ser Ile Thr Asn Val Asp Asn Val
1   5   10

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Gly Phe Ser Leu Ser Ser Asn Ala
1   5

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Ile Thr His Ser Asp Asn Thr
1 5

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Ala Arg Asp Gly Tyr Val Ser Ser Ser Gly Thr Tyr Met Gly Gly Tyr
1 5 10 15

Phe Asp Leu

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Gln Ile Ile Tyr Asn Asp Lys Asn
1 5

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Tyr Ala Ser
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Gln Gly Glu Phe Ser Cys Ser Ser Ala Asp Cys Ile Ala
1 5 10

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Gly Ile Asp Leu Ser Ser Tyr Ala
1 5

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Ile Gly Ala Gly Gly Ser Thr
1   5

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Ala Arg Asp Ile Gly Gly Asp Tyr Ser Ser Arg Tyr Tyr Phe Ser Leu
1   5   10   15

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Gln Ser Thr Ser Thr Ala
1   5

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Asp Ser Ser
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Gln Gln Gly Tyr Asn Ile Asn Asn Val Ala
1   5   10

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Gly Phe Thr Ile Ser Ser His His
1   5

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Ile Phe Pro Ser Gly His Thr
1   5

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Val Arg Asp Val Gly Tyr Phe Thr Leu
1   5

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Glu Ser Val Gly Gly Asn Asn Trp
1   5

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Gly Ala Ser
1

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Gln Gly Tyr Tyr Ser Asp Val Thr Asn Ala
1 5 10

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Gly Phe Ser Leu Ser Ser Tyr Tyr
1 5

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Ile Thr Ser Gly Gly Ser Gly Ser Thr
1 5

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Ala Arg Tyr Gly Asp Ser Phe Tyr Trp Ala Leu Asp Leu
1 5 10

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Gln Ser Val Leu Asn Asn Asp
1 5

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Ala Ala Ser
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Gly Ile Asp Leu Ser Arg Tyr Asp
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Ile Gly Ala Ser Gly Ser Thr
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Ala Arg Glu Glu Thr Asp Ser Arg Gly Tyr Tyr Tyr Ser Leu
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Asp Ala Ser
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Gln Gln Gly Tyr Ser Ile Asn Asn Val Asp Asn Ala
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Gly Phe Ser Leu Ser Ser Tyr Gly
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Ala Ala Ser
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Gly Phe Ser Phe Ser Ser Asn Tyr Cys
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Ala Arg Tyr Asp Asn Ser Gly Trp Gly Asp Phe Lys Leu
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Gln Asn Ile Gly Thr Tyr
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Ala Ala Ser
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Gln Asn Thr Tyr Tyr Asp Ser Pro Val Val Gly Gly Ala
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Gly Ile Asp Leu Ser Ser Tyr Ala
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Ile Ser Thr Gly Gly Ser Thr
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Ala Arg Asp Val Gly Gly Thr Thr Val Pro Tyr Tyr Phe Asp Leu
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Glu Ala Ser
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Gly Phe Ser Leu Ser Asn Tyr His
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Ile Tyr Ala Gly Ser Asp Ser Thr
1 5

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Ala Arg Gln Pro Gly Gly Gly Ala Ser Asp Thr Gln Leu Asp Leu
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Gln Asn Ile Phe Asp Asn Asn Gln
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Arg Ala Ser
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Leu Gly Gly Tyr Ser Ser Ser Ser Asp Thr Val
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Gly Phe Ser Leu Ser Ser Asn Ala
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Ile Asp Thr Gly Gly Ser Ala
1 5

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Ala Arg Asp Arg Tyr Thr Asp Ser Ser Gly Tyr Asn Leu
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Gln Ser Ile Gly Ala Ser
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Ser Ala Ser
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Gln Ser Tyr Tyr Tyr Arg Ser Ser Ser Gly Tyr Gly Tyr Ala
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Gly Phe Ser Leu Ser Ser Tyr Val
1   5

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Ser Asp Tyr Gly Gly Thr Ala
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Ala Arg Gly Gly Tyr Asp Gly Tyr Leu Leu Val Thr Gly Leu
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Gln Ser Ile Ser Ser Tyr
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Ser Ala Ser
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Gln Thr Tyr Tyr Gly Gly Gly Pro Phe Gly Asn Gly
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Gly Ile Asp Leu Thr Ser Tyr Ala
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Ile Gly Ser Gly Gly Gly Ile
1 5

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Ala Arg Val Pro Gln Trp Ala Tyr Leu Asp Leu
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Glu Ser Val Tyr Lys Asn Asn Tyr
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Asp Ala Ser
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Gln Gly Tyr Tyr Gly Gly Gly Ile Phe Thr
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Gly Ile Asp Leu Ser Ser Tyr Ala
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Ile Ser Thr Ile Ser Asn Thr
1 5

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Ala Arg Gly Ala Ser Asn Thr Ile Asn Asp Tyr Phe Asn Leu
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Gln Ser Val Gly Asn Tyr
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Asp Ala Ser
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Gly Ile Asp Leu Ser Ser Asn Val
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Ile Tyr Ala Ser Ala Thr Thr
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Glu Ser Ile Gly Asp Leu
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Asp Ala Ser
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Gln Gln Gly Tyr Thr Thr Thr Ser Asn Val Asp Asn Ile
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Gly Phe Ser Leu Ser Gly Tyr His
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Ile Gly Ser Asn Gly Asn Thr
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Ala Arg Ser Ser Gly Trp Gly Ala Arg Phe Asn Leu
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Gln Ser Ile Tyr Asn Asp Asn Glu
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Lys Ala Ser
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Leu Gly Gly Gly Met Thr Pro Ser Asp Thr Thr
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Gly Phe Ser Leu Ser Ser Tyr Tyr
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Ile Asp Arg Ala Gly Thr Thr
1 5

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Ala Arg Asn Phe Ile Tyr Gly Val Gly Thr Tyr Tyr Gly Ser Asp Leu
1 5 10 15

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Glu Ser Ile Ser Arg Arg
1 5

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Gly Ala Ser
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Gln Asp Thr Asp Tyr Gly Ser Gly His Leu Gly Ala
1 5 10

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Gly Phe Ser Leu Ser Ser His Gly
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Ile Tyr Val Ile Ser Gly His Ala
1 5

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Ala Arg Gly Asn Tyr Gly Ser Asp Ser Gly Pro Asn Phe Thr Arg Leu
1 5 10 15

Asp Leu

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Gln Ser Leu Tyr Asn Asn Asp Tyr
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Leu Ala Ser
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Gln Gly Glu Phe Ser Cys Ser Ser Gly Asp Cys Leu Ala
1 5 10

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Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

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Ile Ser Ser Ser Gly Ser Thr
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Ala Arg Thr Ser Leu Asp Gly Asn Leu
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Gln Ser Ile Tyr Asn Tyr
1 5

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Asp Ala Ser
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Gly Phe Ser Leu Ser Ser Ser His
1 5

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Ile Asn Ile Gly Asp Ile Ala
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1 5 10

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Glu Ser Ile Arg Asn Ala
1 5

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Ser Ala Ser
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Gln Gln Gly Phe Ser Leu Arg Asn Val Asp Asn Ala
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Gly Phe Ser Leu Ser Asn Tyr Ala
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Ile Tyr Thr Ser Gly Thr Thr
1 5

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Ala Arg Ser Arg Tyr Tyr Gly Ser Gly Trp Gly Gly Tyr Tyr Phe Asn
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Leu

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Glu Asp Ile Tyr Ser Leu
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Gly Ala Ser
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Gly Ile Asp Leu Ser Asn Tyr Ala
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Gln Ser Ile Gly Ser Asn
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Ala Ala Ser
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Gly Phe Ser Leu Ser Ser Tyr Tyr
1 5

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Ile Asn Thr Ser Gly Gly Ala
1 5

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Glu Asp Ile Tyr Thr Leu
1 5

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Lys Ala Ser
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Gln Ser Thr Tyr Tyr Gly Ala Ala Tyr Ile Gly Ala
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Gly Ala Ser
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Gln Ser Asn Tyr Gly Ser Gly Ser Arg Ser Asn Tyr Ile
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Gly Ile Asp Leu Asn Asn Asn Ala
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Ile Ser Thr Ala Asp Thr Thr
1   5

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Ala Arg Ala Ala Tyr Phe Ser Tyr Gly Tyr Phe Asn Leu
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Gln Asn Ile Gly Asn Ala
1 5

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Gly Ala Ser
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Gln Ser Tyr Val Tyr Ser Asp Gly Asn Val
1 5 10

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Gly Ile Asp Phe Ser Thr Asn Tyr Arg
1 5

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1 5

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<223> LCDR1

<400> 1420

Gln Ser Ile Ser Lys Phe
1 5

<210> 1421
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1421

Arg Ala Ser
1

<210> 1422
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1422

Gln Cys Thr Tyr Gly Gly Thr Ser Gly Ser Val Trp Ala
1 5 10

<210> 1423
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1423

Gly Phe Ser Phe Ser Ser Ser Phe Tyr
1 5

<210> 1424
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1424

Ile Tyr Ala Glu Asp Ser Asp Tyr Thr
1 5

<210> 1425
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1425

Ala Arg Glu Ile Leu Tyr Pro Thr Asn Thr Asp Ser Phe Asp Leu
1 5 10 15

<210> 1426
<211> 6
<212> PRT
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<220>
<223> LCDR1

<400> 1426

Glu Ser Phe Ser Ser Arg
1 5

<210> 1427
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1427

Arg Ala Ser
1

<210> 1428
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1428

Gln Ala Tyr Val Gly Ile Ser Ser Gly Gly Tyr Ala
1   5   10

<210> 1429
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1429

Gly Phe Ser Phe Ser Ser Ser Tyr Trp
1   5

<210> 1430
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1430

Ile Ser Ala Pro Gly Ser Gly Ser Thr
1 5

<210> 1431
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1431

Ala Arg Phe Tyr Ala Gly Gly Ser Gly Asp Tyr Phe Asp Leu
1 5 10

<210> 1432
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1432

Gln Asn Ile Gly Ser Tyr
1 5

<210> 1433
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1433

Thr Thr Ser
1

<210> 1434
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1434

Leu Gly Val Tyr Gly Tyr Ser Ser Asp Asp Val Ala
1   5   10

<210> 1435
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1435

Gly Ile Asp Leu Ser Asp Tyr Ala
1   5

<210> 1436
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1436

Ile Asn Ile Gly Gly Ile Ser
1   5

<210> 1437
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1437

Ala Arg Glu Gly Tyr Thr Thr Gly Gly Gly Gly Pro Tyr Tyr Gly Met
1 5 10 15

Asp Leu

<210> 1438
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1438

Gln Ser Ile His Ser Trp
1 5

<210> 1439
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1439

Thr Ala Ser
1

<210> 1440
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1440

Gln Arg Asn Ser Tyr Ser Asp Phe Asn Asn Tyr Val
1 5 10

<210> 1441
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1441

Gly Phe Ser Phe Ser Ser Ser Asp Tyr
1 5

<210> 1442
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1442

Met Tyr Thr Gly Ser Val Glu His Thr
1 5

<210> 1443
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1443

Ala Arg Ser Pro Thr Gly Tyr Pro Asp Tyr Gly Tyr Gly Gly Phe Ser
1 5 10 15

Leu

<210> 1444
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1444

Gln Asn Ile Tyr Ser Asn
1   5

<210> 1445
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1445

Gly Ala Ser
1

<210> 1446
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1446

Gln Ser Ala Tyr Tyr Ser Gly Gly Pro Asp Met Ala
1   5   10

<210> 1447
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1447

Gly Phe Tyr Leu Ser Ser His Tyr
1   5

<210> 1448
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1448

Ile Tyr Ala Thr Gly Ile Ala
1   5

<210> 1449
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1449

Ala Arg Tyr Asp Ser Gln Asp Tyr Tyr Gly Tyr Gly Asn Leu
1   5   10

<210> 1450
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1450

Gln Asn Ile Tyr Asn Asn
1 5

<210> 1451
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1451

Arg Ala Ser
1

<210> 1452
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1452

Gln Gln Gly Tyr Ser Val His Asp Val Tyr Asn Thr
1 5 10

<210> 1453
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1453

Gly Phe Ser Leu Ser Gly Tyr His
1 5

<210> 1454
<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1454

Ile Gly Ser Asn Gly Val Thr
1 5

<210> 1455
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1455

Ala Arg Ser Ser Gly Trp Gly Ala Arg Phe Asn Leu
1 5 10

<210> 1456
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1456

Gln Ser Val Tyr Asn Asp Asn Glu
1 5

<210> 1457
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1457

Lys Ala Ser
1

<210> 1458
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1458

Leu Gly Gly Gly Ser Thr Pro Ser Asp Ser Thr
1 5 10

<210> 1459
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1459

Gly Phe Thr Ile Ser Ser Tyr His
1 5

<210> 1460
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1460

Ile Gly Ser Asn Gly Asn Thr
1 5

<210> 1461
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1461

Ala Arg Ser Ser Gly Trp Gly Ala Arg Phe Asn Leu
1 5 10

<210> 1462
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1462

Gln Ser Val Tyr Asn Asp Asn Glu
1 5

<210> 1463
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1463

Lys Ala Ser
1

<210> 1464
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> LCDR3

<400> 1464

Leu Gly Gly Gly Ser Thr Pro Ser Asp Ser Thr
1   5   10

<210> 1465
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1465

Gly Phe Ser Leu Asn Asn Ala His
1   5

<210> 1466
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1466

Ile Gly Ala Ser Gly Ser Thr
1   5

<210> 1467
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1467

Gly Arg Thr Asp Val Gly Tyr Thr Thr Ala Asn Leu
1   5   10

<210> 1468
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1468

Gln Thr Ile Ser Ser Tyr
1   5

<210> 1469
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1469

Ser Ala Ser
1

<210> 1470
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1470

Gln Ala Tyr Asp Thr Thr Ser Gly Thr Asp Leu Trp Ala
1   5   10

<210> 1471
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1471

Gly Phe Ser Phe Ser Ser Asp Tyr Asp
1   5

<210> 1472
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1472

Ile Ile Gly Gly Ser Ser Asp Ser Thr
1   5

<210> 1473
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1473

Ala Arg Asn Val Gly Phe Ser Tyr Tyr Asp Leu
1   5   10

<210> 1474
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1474

Gln Ser Leu Tyr Asn Asn Lys Asn
1 5

<210> 1475
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1475

Tyr Ala Ser
1

<210> 1476
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1476

Gln Gly Glu Phe Ser Cys Ser Ser Gly Asp Cys Phe Ala
1 5 10

<210> 1477
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1477

Gly Ile Asp Leu Ser Ser Tyr Ala
1 5

<210> 1478
<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1478

Ile Tyr Ser Ser Gly Ser Thr
1 5

<210> 1479
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1479

Ala Arg Tyr Ser Ala Ala Asp His Gly Asp Lys Phe Lys Leu
1 5 10

<210> 1480
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1480

Lys Asn Ile Phe Asp Asn Thr Arg
1 5

<210> 1481
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1481

Gly Ala Ser
1

<210> 1482
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1482

Leu Gly Glu Tyr Ser Ser Asp Ser Asp Thr Ser
1 5 10

<210> 1483
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1483

Gly Phe Ser Leu Ser Thr Tyr Tyr
1 5

<210> 1484
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1484

Ile Tyr Thr Ser Gly Ser Thr
1 5

<210> 1485
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1485

Ala Arg Ser Arg Val Pro Gly Asp Thr Thr Gly Leu Tyr Tyr Phe Asn
1 5 10 15

Leu

<210> 1486
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1486

Glu Asn Ile Tyr Ser Asn
1 5

<210> 1487
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1487

His Thr Ser
1

<210> 1488
<211> 13

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1488

Gln Ser Ala Tyr Asp Ser Ser Ser Ser Asp Thr Phe Thr
1 5 10

<210> 1489
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1489

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Ser Ser Gly Val Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65 70 75 80

Gly Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Pro
85 90 95

Gly Tyr Ser Thr Gly Trp Asp Tyr Phe Phe Arg Leu Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
        115

<210> 1490
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1490

Ala Ile Lys Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1   5   10   15

Gly Thr Val Ser Ile Asn Cys Gln Ala Ser Glu Asp Ile Glu Ser Tyr
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Asp Ala Ser Asp Leu Pro Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Lys Gln Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65   70   75   80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln His Gly Ala Tyr Thr Ser Ser
                85   90   95

Ser Asp Phe Phe Tyr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1491
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1491

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Arg Tyr Tyr
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Phe Ile Asn Thr Ala Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65   70   75   80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Leu
                85   90   95

Ser Arg Phe Ser Leu Trp Gly Arg Gly Thr Leu Val Ile Val Ser Ser
            100   105   110

<210> 1492
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1492

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1   5   10   15

```
Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Pro Ser Val Tyr Ser Asp
            20                  25                  30

Tyr Leu Ser Trp Phe Gln Lys Lys Pro Gly Gln Pro Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Trp Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu
65                  70                  75                  80

Ser Asp Asp Val Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ser Gly Asn
                85                  90                  95

Ser Asp Asn Trp Ala Phe Gly Gly Gly Thr Asp Val Val Val Lys
            100                 105                 110
```

<210> 1493
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1493

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Gly
            20                  25                  30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Thr Ile Ser Tyr Gly Gly Ser Thr Phe Tyr Ala Asn Trp Val Lys Gly
    50                  55                  60
```

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Val Thr
65                  70                  75                  80


Ser Leu Thr Thr Glu Asp Ala Ala Thr Tyr Phe Cys Ala Arg Glu Val
                85                  90                  95


Pro Tyr Trp Ser Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            100                 105                 110


<210>  1494
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1494

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Ala Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Arg Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Val Gln Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Val Tyr Cys Gln Gln Asp Tyr Ser Tyr Arg Asn
                85                  90                  95
```

Val Asp Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1495
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1495

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Gly
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Asp Ala Gly Asp Ser Pro Tyr Tyr Ala Ser Trp Val Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ile Ala
85 90 95

Gly Ser Asn His Gly Pro Phe Ser Leu Trp Gly Pro Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 1496
<211> 109

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1496

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Phe Ile Ser Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Ala Tyr Gly Ser Gly
85 90 95

Tyr Val Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1497
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1497

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu His Asn Tyr Asn
            20                  25                  30

Ile Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Trp Ile Leu Thr Asp Gly Ser Pro Tyr Cys Ala Asn Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Met Gly
                85                  90                  95

Asp Tyr Asn Ile Asn Gly Leu Trp Gly Pro Gly Thr Leu Val Thr Val
            100                 105                 110

Ser Ser
```

<210> 1498
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1498

```
Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Arg Ile Tyr Asn Asn
            20                  25                  30
```

```
Asp Phe Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Ala Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Ser Ser
                85                  90                  95

Ser Gly Trp Tyr Leu Pro Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1499
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1499

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Ile Asp Leu Asn Asn Tyr Ala
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Ser Gly Ala Gly Tyr Thr Tyr Tyr Thr Thr Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80
```

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ile Tyr
85 90 95

Asp Ser Tyr Gly Tyr Ala Tyr Val Pro Tyr Tyr Asp Met Asp Leu Trp
100 105 110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1500
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1500

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Thr Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Phe Met Asn
20 25 30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Asp Ala Ser Thr Leu Ala Ser Arg Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Ala Tyr Tyr Cys Leu Gly Gly Tyr Asp Asp
85 90 95

Asp Ser Ala Thr Thr Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 1501
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1501

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Phe
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

Met Asn Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Tyr Ser Asp Asp Ile Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Thr Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Val Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Asp
85 90 95

Gly Asp Arg Ser Ile Trp Ser Phe Asp Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 1502
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1502

```
Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Trp Asn Asn
            20                  25                  30


Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Asn Leu
        35                  40                  45


Leu Ile Tyr Glu Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
    50                  55                  60


Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Val Ser Glu Val
65                  70                  75                  80


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Tyr Asp
                85                  90                  95


Ser Ser Pro Ile Trp Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1503
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1503

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15
```

```
Gln Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Ser Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Ala
                85                  90                  95

Tyr Pro Ser Tyr Ser Pro Phe Gly Tyr Tyr Phe Thr Leu Trp Gly Gln
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 1504
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1504

```
Ala Ile Lys Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Ser Ile Asn Cys Gln Ala Ser Glu Asp Ile Tyr Asn Tyr
            20                  25                  30
```

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Lys Gln Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln His Gly Tyr Phe Thr Tyr Ser
85 90 95

Gly Glu Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1505
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1505

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr
20 25 30

Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ala Cys Ile Tyr Thr Gly Asp Gly Ala Ser Tyr Tyr Ala Ser Trp Ala
50 55 60

Lys Gly Arg Phe Thr Ile Ser Lys Pro Ser Ser Thr Thr Val Thr Leu
65 70 75 80

```
Gln Val Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Gly
                85                  90                  95


Arg Gly Glu Tyr Asp Asn Asp Trp Gly Phe Gly Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  1506
<211>  108
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1506

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Ser Ser Tyr
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Glu Leu Leu Ile
        35                  40                  45


Tyr Tyr Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Arg Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Ser Asn Tyr Gly Gly Ser
                85                  90                  95
```

Trp Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1507
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1507

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Ser Trp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Phe Ile Gly
35 40 45

Phe Ile Asn Thr Gly Gly Arg Ala Phe Tyr Ala Thr Trp Ala Ser Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Lys Val Asp Leu Glu Ile Thr
65 70 75 80

Ser Pro Thr Ser Glu Asp Thr Ala Thr Tyr Phe Cys Val Arg Gly Ala
85 90 95

Ala Gly Tyr Pro Glu Tyr Asp Asp Gly Asp Leu Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1508
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1508

Ala Gln Val Leu Thr Gln Thr Leu Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Pro Ser Val Tyr His Asn
20 25 30

Asn Trp Leu Ser Trp Phe Gln Lys Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Glu Ala Ser Lys Leu Ala Ser Gly Val Pro Pro Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Ser Phe Ser Asp
85 90 95

Asn Ile Tyr Thr Phe Gly Gly Gly Thr Ala Met Val Val Lys
100 105 110

<210> 1509
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1509

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Gly Tyr Asp
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Tyr Ile Tyr Ala Gly Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly Arg
    50                  55                  60

Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr Ser
65                  70                  75                  80

Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Thr Arg Val Gly Ala
                85                  90                  95

Gly Tyr Ser Gly Val Trp Ala Tyr Phe Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115


<210>  1510
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1510

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Asp Ser Asp
            20                  25                  30
```

```
Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Asp Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Thr Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65                  70                  75                  80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Gly Asn
                85                  90                  95

Ile Gly Trp Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1511
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1511

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Thr
            20                  25                  30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45

Ile Ile Gly Thr Ser Gly Thr Thr Tyr Tyr Ser Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80
```

```
Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Leu Gly
                85                  90                  95


Asp Asp Tyr Gly Asp Phe His Phe Asn Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  1512
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1512

Asp Leu Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Ala Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Asp Ser Thr
                85                  90                  95
```

Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1513
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1513

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Ser Ala
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Gly Tyr Asn Asp Phe Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
85 90 95

Ser Ser Ser Tyr Ser Asp Tyr Val Phe Asp Pro Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1514
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1514

```
Ala Phe Glu Met Thr Gln Thr Pro Ser Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Tyr Ser Asn
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Tyr Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Gly Ile Ser Ser
                85                  90                  95


Tyr Gly Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1515
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1515

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15
```

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Tyr
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Ser Leu Glu Trp Ile Gly
        35                  40                  45

Cys Ile His Gly Asp Asp Gly Ser Thr Trp Tyr Ala Ser Trp Val Gln
    50                  55                  60

Gly Arg Phe Thr Ile Ser Lys Ala Ser Thr Thr Val Asp Leu Gln Ile
65                  70                  75                  80

Ala Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
                85                  90                  95

Leu Pro Tyr Trp Pro Asn Asp Gly Asp Phe Asn Leu Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115


<210>  1516
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1516

Thr Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Ser Ile Ser Cys Gln Ser Ser Gln Ser Val Tyr Asn Asn
            20                  25                  30
```

```
Asn Trp Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Val Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Tyr Thr
                85                  90                  95

Thr Ser Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1517
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1517

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
            20                  25                  30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Trp Ile Asn Thr Ala Gly Gly Thr Asp Tyr Thr Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Val Thr
65                  70                  75                  80
```

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Asp
85 90 95

Tyr Tyr Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser
100 105 110

Ser

<210> 1518
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1518

Ala Gln Val Leu Thr Gln Thr Ala Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Tyr Asp Asn
20 25 30

Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Ala Tyr Tyr Cys His Gly Val Tyr Ser Gly
85 90 95

Ser Ile His Ala Phe Gly Gly Gly Thr Glu Val Val Val Ile
100 105 110

<210> 1519
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1519

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asn Tyr Tyr
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Ile Ile Gly Ser Gly Val Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Ala Ser Ser Thr Thr Val Asp Leu Lys Met
65 70 75 80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp
85 90 95

Met Tyr Val Gly Asn Trp Gly Asp Trp Gly Leu Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1520
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1520

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Asn Asn
            20                  25                  30


Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Ser Val Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65                  70                  75                  80


Val Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Arg Ile Gly Asp
                85                  90                  95


Leu Asp Ser Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1521
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1521

```
Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1               5                   10                  15
```

```
Ser Leu Thr Val Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Asn Ser
            20                  25                  30


Tyr Trp Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45


Ile Ala Cys Ile Tyr Leu Gly Ser Ala Gly Thr Thr His His Ala Thr
    50                  55                  60


Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Thr Ser Thr Thr Val
65                  70                  75                  80


Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95


Cys Ala Arg Ala Gly His Asp Tyr Trp Gly Ala Tyr His Thr Leu Trp
            100                 105                 110


Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  1522
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1522

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Ser Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Asp Asn Thr
            20                  25                  30
```

Leu Ala Trp Tyr Gln Gln Lys Ala Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr His Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Arg Gly
    50   55   60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Pro Tyr Tyr Gly Ser Thr
                85   90   95

Tyr Val Tyr Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1523
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1523

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Asn His Gly
            20   25   30

Met Gly Trp Phe Arg Gln Gly Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Tyr Ile Asp Gly Gly Ala Ser Tyr Ala Ser Trp Val Asn Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Ile
85 90 95

Pro Ser Asp Gly Asp Ser Ser Tyr Tyr Tyr Phe Asn Leu Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ala Ser
115 120

<210> 1524
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1524

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Val Tyr Asn Lys
20 25 30

Tyr Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu
35 40 45

Ile Tyr Arg Ala Ser Thr Leu Glu Ser Gly Val Ser Ser Arg Phe Lys
50 55 60

Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu
65 70 75 80

Ser Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Asn Asn Gly Ala Gly
85 90 95

Asp Asn Thr Asp Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1525
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1525

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Arg Tyr Ala
20 25 30

Ile Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Ser Ser Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Ile Tyr Phe Cys Ala Arg Ala Ile
85 90 95

Ala Gly Asp Ala Gly Tyr Val Tyr Ala Ile Asp Trp Leu Asp Leu Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1526
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1526

Asp Pro Val Leu Thr Gln Thr Pro Ser Ser Ala Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Tyr Ile Ser Asn Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Phe Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Phe Ser Ser Ser
85 90 95

Thr Thr Tyr Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Arg
100 105 110

<210> 1527
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1527

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1 5 10 15

```
Leu Thr Leu Pro Cys Thr Ala Ser Gly Phe Thr Leu Ser Gly Tyr Trp
            20                  25                  30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Cys Ile Tyr Asn Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu Gln
65                  70                  75                  80

Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg
                85                  90                  95

Asp Ser Asn Gly Trp Gly Ala Tyr Gly Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 1528
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1528

```
Ala Ile Glu Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asp Cys Gln Ala Ser Gln Ser Ile Gly Ser Tyr
            20                  25                  30
```

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65   70   75   80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Gly Tyr Tyr Ser Ser Ala
                85   90   95

Thr Glu Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1529
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1529

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
            20   25   30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35   40   45

Val Ile Ser Thr Ser Ala Asn Thr Tyr Tyr Ala Thr Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Val Val
85 90 95

Gly Leu Tyr Asp Ser Tyr Gly Asp Val Asp Ala Thr Tyr Asp Ala Phe
100 105 110

Asp Pro Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 1530
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1530

Ala Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Asp Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Asn Asn
20 25 30

Asn Leu Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Val Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro His Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Asp Asp
85 90 95

Asp Ala Asp Ile Tyr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1531
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1531

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Ser Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Phe Ile Ser Ala Ser Gly Ser Ile Tyr Phe Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Ser Asp Ser
85 90 95

Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1532
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1532

```
Ala Val Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Arg Ala Ser Glu Asp Ile Gly Ser Tyr
            20                  25                  30


Leu Gly Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Met
        35                  40                  45


His Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Trp Tyr Ser Ser Gly
                85                  90                  95


Thr Asp Lys Met Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1533
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1533

```
Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1               5                   10                  15
```

```
Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe Ser Ser Ala
            20                  25                  30

Asn Cys Met His Trp Val Arg Gln Ala Pro Glu Lys Gly Leu Gln Trp
        35                  40                  45

Ile Gly Cys Val Cys Ile Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp
    50                  55                  60

Val Asn Gly Arg Phe Ser Ile Ser Ala Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80

Ile Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95

Ala Arg Asp Leu Gly Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser
            100                 105                 110

Ser
```

<210> 1534
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1534

```
Ala Ile Val Met Thr Gln Thr Pro Ser Ser Lys Ser Val Pro Val Gly
1               5                   10                  15

Asp Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Val Asp Lys Tyr
            20                  25                  30
```

```
Thr Gln Cys Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65                  70                  75                  80

Val Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ser Gly Tyr Lys Gly Gly
                85                  90                  95

Ser Ala Asp Met Ile Ala Phe Gly Gly Gly Thr Glu Leu Val Val Thr
            100                 105                 110
```

<210> 1535
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1535

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asn Tyr Ala
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Ala
        35                  40                  45

Ile Ile Ser Gly Ser Gly Ser Thr Asn Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Leu Ser Lys Ala Ser Thr Thr Val Ala Leu Lys Ile Thr
65                  70                  75                  80
```

```
Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Gly Arg
                85                  90                  95


Asp Asp Asp Tyr Ala Trp Asp Leu Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115


<210>  1536
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1536

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Thr Ile Ser Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Ala Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Arg Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Ser Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys His Cys Thr Tyr Tyr Asp Ser Ser
                85                  90                  95
```

Tyr His Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1537
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1537

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Ala
20 25 30

Tyr Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Ala Cys Ile Asp Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser
50 55 60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
85 90 95

Cys Ala Arg Asp Gly Gly Ser Thr Thr Gly Tyr Gly Trp Leu Asp Leu
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1538
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1538

Ala Val Val Met Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Gly Thr Asn
20 25 30

Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu
35 40 45

Ile Tyr Glu Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Lys
50 55 60

Gly Ser Gly Ser Gly Thr Glu Tyr Ser Leu Thr Ile Ser Asp Leu Glu
65 70 75 80

Ser Ala Asp Ala Ala Thr Tyr Tyr Cys Leu Tyr Ser Tyr Tyr Ser Ser
85 90 95

Ser Ser Ala Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1539
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1539

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Asn
            20                  25                  30

Val Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Gln Tyr Ile Gly
        35                  40                  45

Ile Met Ala Phe Asp Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Thr Gly
    50                  55                  60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asn Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Cys Lys Gly Asp
                85                  90                  95

Pro Ser Ser Asp Thr Gly Thr Thr Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115


<210>  1540
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1540

Ala Ala Val Leu Thr Gln Thr Pro Ser Ser Ala Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ser Ser Pro Ser Val Tyr Ser Asn
            20                  25                  30
```

Asn Trp Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu
        35   40   45

Leu Ile Tyr Ala Ala Ala Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Arg Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Phe Asn Ser
                85   90   95

Asp Ser Asp Thr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1541
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1541

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ile Asn Tyr Asn
            20   25   30

Met Gly Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
        35   40   45

Thr Ile Leu Thr Asp Gly Thr Val Tyr Tyr Ser Asn Trp Ala Lys Gly
    50   55   60

Gln Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Glu Met Thr
65   70   75   80

Ser Pro Thr Asn Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Tyr
85 90 95

Pro Ser Tyr Ile Ala Phe Asp Leu Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 1542
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1542

Ala Gln Val Leu Thr Gln Thr Ala Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asp
20 25 30

Asp Asn Leu Ala Trp Leu Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Gly Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Glu Asp Ala Ala Ile Tyr Tyr Cys Gln Gly Gly Gly Phe Ser
85 90 95

Ser Gly Trp Tyr Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1543
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1543

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Lys Val Ser Gly Phe Ser Leu Ser Thr Tyr Asp
20 25 30

Met Ile Trp Val Arg Gln Ala Pro Ala Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Ile Ile Gly Gly Ser Gly Phe Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asn Asn
85 90 95

Tyr Asp Met Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 1544
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1544

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Asn Glu
20 25 30

Leu Ala Trp His Gln Gln Lys Pro Gly Gln Arg Pro Asn Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Arg Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Ser Ser
85 90 95

Tyr Val Gly Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1545
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1545

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Gly Ser Tyr Pro
20 25 30

```
Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Tyr Ile Asp Pro Gly Arg Gly Thr Thr Leu Tyr Ala Ser Trp Ala Arg
    50                  55                  60

Gly Leu Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Ala Met
65                  70                  75                  80

Thr Ser Pro Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser
                85                  90                  95

Tyr Pro Gly Asp Gly Ala Gly Asp Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115


<210>  1546
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1546

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Asn Tyr
            20                  25                  30

Phe Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

```
Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Gly Ser Gly
                85                  90                  95

Asp Val Gly Gly Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1547
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1547

```
Gln Glu Gln Leu Lys Glu Thr Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Thr Leu Ser Cys Lys Ala Ser Gly Phe Asp Phe Ser Ser Gly
            20                  25                  30

Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45

Gly Tyr Ile Asp Pro Val Phe Gly Ser Thr Tyr Tyr Ala Ser Trp Val
    50                  55                  60

Asn Gly Arg Phe Ala Ile Ser Ser His Asn Ala Gln Asn Thr Leu Tyr
65                  70                  75                  80

Leu Gln Leu Asn Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95
```

Ala Arg Asp Leu Arg Ala Phe Tyr Ser Gly Trp Gly Gly Ile Asn Leu
100 105 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1548
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1548

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ser Ser Gln Ile Val Val Asn Asn
20 25 30

Asn Phe Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Asp Asp
85 90 95

Asp Ala Glu Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Gln
100 105 110

<210> 1549
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1549

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Ser Tyr Asp
            20                  25                  30


Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Phe Ile Ser Ala Ser Gly Ser Ile Tyr Phe Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Ser Asp Ser
                85                  90                  95


Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115
```

<210> 1550
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1550

Ala Val Val Leu Thr Gln Thr Pro Ala Ser Val Ser Pro Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Arg Ala Ser Glu Asp Ile Gly Ser Tyr
20 25 30

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Met
35 40 45

His Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Trp Tyr Ser Ser Asn
85 90 95

Thr Asp Lys Met Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1551
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1551

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Lys Pro Gly Glu Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Glu Phe Ser Leu Ser Ser Asn Ala
20 25 30

```
Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Phe Ile Gly
        35                  40                  45

Leu Ile Asp Ser Gly Gly Asp Ala Tyr Tyr Ala Thr Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys Ala
65                  70                  75                  80

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Gly
                85                  90                  95

Tyr Trp Phe Pro Arg Leu Gly Leu Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser
        115
```

<210> 1552
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1552

```
Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Ser Ile Asn Cys Gln Ser Thr Lys Asn Val Tyr Leu Asn
            20                  25                  30

Asn Trp Leu Gly Trp Phe Gln Lys Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45
```

Leu Ile Tyr Asp Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Ala Tyr Asp Asp
85 90 95

Asn Ser Asp His Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1553
<211> 128
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1553

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Asn Val Asp
20 25 30

Tyr Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Ala Cys Ile Tyr Val Gly Ser Glu Gly Ser Thr Tyr Tyr Ala Ser
50 55 60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
85 90 95

```
Cys Ala Arg His Tyr Ala Gly Tyr Ala Gly Tyr Asn Tyr Ala Thr Asp
            100                 105                 110


Tyr Tyr Phe Thr Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125


<210>  1554
<211>  106
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1554

Asp Ile Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Gly Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Thr Asn Phe
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Met Lys Ala
65                  70                  75                  80


Glu Asp Val Ala Thr Tyr Tyr Cys Gln Ser Gly Tyr Tyr Ser Ala Thr
                85                  90                  95


Phe Gly Ala Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 1555
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1555

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
            20                  25                  30


Val Ser Trp Val Arg Gln Ala Pro Trp Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Ile Ile Ser Ser Gly Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Thr Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Ile
                85                  90                  95


His Ser Tyr Asp Asp Tyr Leu Gly Tyr Lys Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115
```

<210> 1556
<211> 108
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1556

Ala Ile Glu Met Thr Gln Ser Pro Pro Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Glu Thr Val Arg Ile Arg Cys Leu Ala Ser Glu Phe Leu Phe Asn Ala
20 25 30

Val Ser Trp Tyr Gln Gln Lys Pro Glu Lys Pro Pro Thr Leu Leu Ile
35 40 45

Ser Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Pro Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Gly Gly Val Gln Ala
65 70 75 80

Glu Asp Val Ala Ala Tyr Tyr Cys Leu Gly Gly Tyr Lys Arg Ala Asp
85 90 95

Leu Thr Phe Gly Pro Gly Thr Lys Val Glu Ile Lys
100 105

<210> 1557
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1557

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Asp Tyr Ala
20 25 30

```
Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ser Ile Tyr Thr Ser Gly Thr Pro Tyr Tyr Ala Thr Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gln Ser
                85                  90                  95

Gly Ile Asp Asn Tyr Trp Leu Phe Thr Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Cys Val Ser Ser
        115


<210>  1558
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1558

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Gly Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ala Ser Gly
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Ser Ala Ser Ser Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Asn Tyr Tyr Cys Gln Gln Gly Tyr Thr Ser Thr Asn
                85   90   95

Leu His Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1559
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1559

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Asn Cys Thr Ala Ser Gly Phe Ser Leu Ser Ala Tyr Trp
            20   25   30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Ile Ile Tyr Ala Thr Gly Ser Thr Tyr Tyr Thr Thr Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Gly Asp
                85   90   95

Gly Tyr Glu Ser Leu Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 1560
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1560

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Ser Asn
20 25 30

Asn Leu Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg
35 40 45

Leu Ile Tyr Gly Ala Ser Thr Leu Asp Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Met
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Tyr Tyr Ser Gly
85 90 95

Gly Ile Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1561
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1561

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Tyr
            20                  25                  30


Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Ile Ile Asp Thr Gly Ser Gly Asp Thr Trp Tyr Ala Thr Trp Ala Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met
65                  70                  75                  80


Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Val
                85                  90                  95


Asn Pro Glu Phe Ala His Val Trp Pro Tyr Tyr Phe Asp Leu Trp Gly
            100                 105                 110


Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 1562
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1562

```
Ala Leu Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Asn
            20                  25                  30


Phe Leu Ser Trp Tyr Gln Gln Asn Pro Gly Gln Pro Pro Lys Leu Leu
        35                  40                  45


Ile Asp Arg Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys
    50                  55                  60


Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu
65                  70                  75                  80


Ser Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Asp Ser Leu Ser
                85                  90                  95


Asn Val Glu Asn Ala Phe Gly Gly Gly Thr Glu Leu Val Val Lys
            100                 105                 110
```

<210> 1563
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1563

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr Asn
            20                  25                  30
```

```
Met Gly Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
        35                  40                  45

His Ile Ser Thr Asp Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Gly Thr Tyr Phe Cys Ala Arg Leu Tyr
                85                  90                  95

Tyr Arg His Gly Tyr Ala Leu Asn Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115
```

<210> 1564
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1564

```
Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Val Gly Ser Tyr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Val Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys His Cys Thr Tyr Gly Ser Asn Ile
                85   90   95

Thr Ala Asn Trp Gly Thr Phe Gly Gly Gly Thr Gly Val Val Val Lys
            100   105   110

<210> 1565
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1565

Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1   5   10   15

Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Asp Phe Asn Asn Asn
            20   25   30

Ala Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Ala Cys Ile Tyr Asp Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
    50   55   60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Ser Thr Val Thr
65   70   75   80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85   90   95

```
Ala Arg Ala Tyr Ala Ala Tyr Thr Val Tyr Asp Tyr Ala Phe Asn Leu
            100                 105                 110


Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  1566
<211>  107
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1566

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Tyr Thr Thr Asn Leu Glu Thr Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Tyr Ala Asp Arg Ser Ser Tyr
                85                  90                  95


Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 1567
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1567

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Arg Tyr Thr
            20                  25                  30


Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45


Ile Ile Tyr Gly Asp Asp Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Leu Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys Ile
65                  70                  75                  80


Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Ser Cys
                85                  90                  95


Ala Pro Ile Tyr Tyr Asn Thr Phe Ser Phe Asn Leu Trp Gly Gln Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ala
        115
```

<210> 1568
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1568

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Thr Ile Gly Gly Ser
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ala Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Tyr Thr Gly Asp Asn
85 90 95

Val Asn Asn Pro Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1569
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1569

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Arg Tyr His
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Tyr Ile His Thr Asp Asp Thr Asn Trp Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Val Ser
85 90 95

Ser Val Gly Gly Tyr Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 1570
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1570

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asp Ile Tyr Asn Leu
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Asn Tyr Leu Ile Ser Ser
                85   90   95

Tyr Gly Val Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1571
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1571

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Gly Tyr Asp
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Tyr Ile Tyr Gly Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly Arg
    50   55   60

Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr Ser
65   70   75   80

Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Thr Arg Val Gly Ala
                85   90   95

```
Gly Tyr Ser Gly Val Trp Ala Tyr Phe Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115


<210>  1572
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1572

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Asp Ser Asp
            20                  25                  30


Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60


Thr Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65                  70                  75                  80


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Tyr Asn
                85                  90                  95


Ala Gly Trp Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1573
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1573

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Thr Asn Tyr Ala
            20                  25                  30


Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Phe Ile Asn Tyr Asp Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
                85                  90                  95


Asp Gly Tyr Thr His Ile Pro Asp Thr Phe Asp Pro Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115
```

<210> 1574
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1574

Ala Phe Glu Met Thr Gln Thr Pro Ser Ser Val Ser Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Tyr Ser Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Val Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Tyr Ser Asn
85 90 95

Ile Asp Asn Val Phe Gly Gly Gly Thr Glu Met Val Val Lys
100 105 110

<210> 1575
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1575

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Asp Leu Ser Ser Tyr Tyr
20 25 30

```
Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Tyr Thr Asp Ser Ser Ala Ser Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Leu
                85                  90                  95

Val Val Ser Thr Asp Asn Tyr Asn Leu Trp Gly Pro Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115
```

<210> 1576
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1576

```
Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Val Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Tyr Asn Asn
            20                  25                  30

Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45
```

Leu Ile Tyr Tyr Thr Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Asn Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Asp Val Gly Gly
85 90 95

Gly Met Arg Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1577
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1577

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Leu Thr Leu Thr Cys Ala Ala Ser Gly Phe Ser Leu Asn Asn Trp Val
20 25 30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Ala
35 40 45

Cys Ile Asp Ile Val Gly Ser Gly Ser Thr His Tyr Ala Thr Trp Ala
50 55 60

Lys Gly Arg Phe Thr Met Ser Lys Ala Ser Ser Ile Thr Val Thr Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

```
Arg Gly Val Asn Gly Asp Gly Asn Leu Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115


<210>  1578
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1578

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Ala Val Thr Ile Lys Cys Gln Ala Ser Glu Thr Ile Ser Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Val Gly Asp Ser
                85                  90                  95


Tyr Thr Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 1579
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1579

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asn Tyr Ala
            20                  25                  30


Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Ile Ile Ser Pro Ser Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Gly
                85                  90                  95


Ala Leu Tyr Asp Asp Tyr Gly Asp Tyr Val Asp Ala Phe Asp Pro Trp
            100                 105                 110


Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 1580
<211> 112
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1580

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Ser Ile Ser Cys Gln Ser Ser Glu Ser Val Tyr Asn Asn
20 25 30

Asn Trp Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ser Ser
85 90 95

Ser Ser Asp Ile Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1581
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1581

Gln Glu Gln Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Leu Ser Phe Ser Gly Ser
20 25 30

```
Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45

Ile Gly Cys Ile Thr Ala Gly Ile Ser Gly Ser Thr Tyr Tyr Ala Ser
    50                  55                  60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95

Cys Ala Arg Glu Arg Thr Gly Gly Trp Gly Asp Phe Asn Leu Trp Gly
            100                 105                 110

Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  1582
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1582

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Thr Thr Tyr
            20                  25                  30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Leu Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Arg Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Asp Gly Gly Ile Asn
85 90 95

His Trp Phe Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1583
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1583

Gln Gln Arg Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Gly
20 25 30

Tyr Asp Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Gly Cys Ile Asp Thr Ala Thr Asp Thr Ile Tyr Tyr Ala Ser Trp
50 55 60

Ala Pro Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Met Val Thr
65 70 75 80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

```
Ala Arg Ser Val Gly Gly Val Asp Tyr Ala Ile Asp Leu Trp Gly Pro
            100                 105                 110


Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  1584
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1584

Ala Tyr Asp Met Thr Gln Thr Pro Val Ser Val Glu Val Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Ser Arg
            20                  25                  30


Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Phe Leu Ile
        35                  40                  45


Tyr Tyr Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln Ser
65                  70                  75                  80


Asp Asn Ala Ala Thr Tyr Tyr Cys Gln Gln Thr Tyr Ser Tyr Ser Asp
                85                  90                  95


Val Asp Asp Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1585
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1585

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Ala
            20                  25                  30


Met Ile Trp Val Arg Gln Ala Pro Gly Glu Gly Pro Glu Trp Ile Gly
        35                  40                  45


Leu Ile Ala Gly Gly Gly Asn Thr Trp Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Asp
                85                  90                  95


Tyr Leu Gly Tyr Gly Asn Asn Phe Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115
```

<210> 1586
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1586

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
20 25 30

Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Trp Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Ser Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Val Tyr Asp Asp
85 90 95

Asp Ala Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1587
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1587

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

```
Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45

Tyr Ile Ser Tyr Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Val Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Arg
                85                  90                  95

Ile Asp Asp Gly Tyr Gly Asn Leu Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser
        115


<210>  1588
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1588

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Asn Tyr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Ala Ala Ser Tyr Leu Ala Ser Gly Val Pro Ser Arg Phe Arg Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Val Ala Ser Thr
                85   90   95

Tyr Val Gly Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1589
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1589

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Thr Tyr Tyr
            20   25   30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35   40   45

Asp Ile Tyr Val Arg Gly Gly Ala Arg Tyr Ala Asn Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65   70   75   80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Gly
                85   90   95

Leu Ser Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 1590
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1590

Ala Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Lys Asn
20 25 30

Asn Arg Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Glu Thr Ser Lys Leu Glu Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Asp Cys
85 90 95

Gly Ser Ala Asp Cys Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 1591
<211> 132
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1591

```
Gln Gln Leu Glu Gln Ser Ala Gly Gly Ala Glu Gly Gly Leu Val Lys
1               5                   10                  15


Pro Gly Gly Ser Leu Glu Leu Cys Cys Lys Ala Ser Gly Phe Ser Leu
            20                  25                  30


Asn Asn Asn Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly
        35                  40                  45


Leu Glu Trp Ile Gly Cys Ile Tyr Val Gly Val Val Ser Leu Thr Tyr
    50                  55                  60


Ser Ala Ser Trp Val Asn Gly Arg Phe Thr Leu Ser Lys Asp Ile Asp
65                  70                  75                  80


Gln Ser Thr Gly Cys Leu Gln Leu Asn Ser Leu Thr Ala Ala Asp Thr
                85                  90                  95


Ala Met Tyr Tyr Cys Ala Arg Ser Leu Tyr Ser Gly Tyr Ala Gly Tyr
            100                 105                 110


Gly Asp Gly Tyr Tyr Gly Met Asp Leu Trp Gly Pro Gly Thr Leu Val
        115                 120                 125


Thr Val Ser Ser
    130
```

<210> 1592
<211> 109

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1592

Gly Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Asp Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Ser Gly
50 55 60

Ile Arg Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Asp Tyr Val Asp Ser
85 90 95

His Asp Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1593
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1593

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45

Ile Ile Ser Gly Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Ser
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Cys Arg Gly Asp
                85                  90                  95

Pro Ser Tyr Ser Ile Asp Gly Phe Asp Pro Trp Gly Pro Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115


<210>  1594
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1594

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Asn Asn
            20                  25                  30
```

```
Asn Asp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Arg Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65                  70                  75                  80

Gln Ser Gly Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Ala Trp Asp Asp
                85                  90                  95

Asp Ala Asp Thr Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
            100                 105                 110
```

<210> 1595
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1595

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr Tyr
            20                  25                  30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Asp Lys Ser Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Arg Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Gly Leu Lys Ile Pro
65                  70                  75                  80
```

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Gly Gly Tyr Ala Asp His Gly Leu Gly Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 1596
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1596

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ala Gly Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Gln Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Gly Ser Ala Ser
85 90 95

Gly Ser Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1597
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1597

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Phe Ala
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Ser Ser Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Ser His Tyr
85 90 95

Asp Asp Tyr Gly Asp Ser Asp Ala Leu Asp Pro Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1598
<211> 109

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1598

Ala Ala Val Met Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Leu Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Val Asp Arg His Ile Ser
85 90 95

Asp Arg Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1599
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1599

Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Asp Phe Ser Tyr Asn
            20   25   30

Ser Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45

Thr Cys Ile Tyr Asn Gly Asp Gly Ser Thr Trp Tyr Ala Ser Trp Ala
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65   70   75   80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Thr
                85   90   95

Arg Asp Phe Gly Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
            100   105   110

<210> 1600
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1600

Ala Leu Val Met Thr Gln Thr Pro Ser Ser Thr Ser Glu Pro Val Gly
1   5   10   15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Val Ala Asn His
            20   25   30

Lys Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Val
        35   40   45

Leu Ile Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Val Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ser Gly Tyr Lys Ser Ile
85 90 95

Ser Thr Asp Gly Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1601
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1601

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Lys Tyr Thr
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Leu Ile Ser Phe Gly Gly Arg Gly Gly Thr Trp Tyr Ala Asn Trp Ala
50 55 60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg
65 70 75 80

Ile Ala Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg
85 90 95

```
Ala Arg Tyr Ser Gly Thr Asn Tyr Asp Tyr Phe Asn Leu Trp Gly Gln
            100                 105                 110


Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  1602
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1602

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Asn Trp
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ser Ser Asp Gly
                85                  90                  95


Val Thr Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
            100                 105                 110
```

<210> 1603
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1603

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Ile Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Gly Ala
            20                  25                  30


Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45


Tyr Ile Tyr Thr Gly Ser Gly Thr Thr Ser Tyr Ala Ser Trp Val Asn
    50                  55                  60


Gly Arg Phe Thr Ile Ser Met Thr Ser Thr Thr Val Asp Leu Lys Ile
65                  70                  75                  80


Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp
                85                  90                  95


Ala Ala Ser Ser Tyr Trp Gly His Phe Thr Leu Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115
```

<210> 1604
<211> 112
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1604

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Ser
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Arg Thr Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr His Asn Ser Gly
85 90 95

Gly Gly Tyr Asp Tyr Gly Phe Gly Gly Gly Thr Glu Val Val Ala Lys
100 105 110

<210> 1605
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1605

Gln Gln Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Phe Phe Ser Gly Ser
20 25 30

```
Tyr Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45

Ile Ala Cys Ile Tyr Thr Gly Ser Asp Asp Asp Thr Asn Tyr Ala Ser
    50                  55                  60

Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val
65                  70                  75                  80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
                85                  90                  95

Cys Ala Arg Arg Asn Tyr Asp Thr Asp Trp Gly Gly Asp Leu Trp Gly
            100                 105                 110

Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 1606
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1606

```
Ala Val Val Leu Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Ser
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45
```

```
Tyr Tyr Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Thr Ser Ser Asp
                85                  90                  95

Tyr Leu Asp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1607
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1607

```
Gln Glu Gln Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1               5                   10                  15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Tyr Tyr
            20                  25                  30

Trp Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ser
        35                  40                  45

Ala Cys Ile Gly Thr Gly Ser Gly Ser Thr Tyr Tyr Ala Thr Trp Ala
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65                  70                  75                  80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
                85                  90                  95
```

```
Arg Asp Trp Gly Ile Tyr Ser Ser Asp Ala Tyr Tyr Met Asp Tyr Phe
            100                 105                 110


Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125


<210>  1608
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1608

Ala Phe Glu Leu Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Pro Leu Ile
        35                  40                  45


Tyr Glu Ala Ser Lys Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Gly Ile Ser Thr Asn
                85                  90                  95


Val Gln Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1609
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1609

```
Gln Glu Gln Leu Lys Glu Ser Gly Gly Gly Leu Val Thr Pro Gly Gly
1               5                   10                  15


Thr Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Thr Phe Ser Ser His
            20                  25                  30


Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45


Gly Lys Ile Tyr Asp Asp Gly Thr Thr Phe Tyr Ala Asn Trp Ala Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met
65                  70                  75                  80


Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Leu Arg Gly
                85                  90                  95


Tyr Asn Ser Gly Phe Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110


Ser Ser
```

<210> 1610
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1610

Ala Gln Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Tyr Asn Asn
20 25 30

Asn Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Leu Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu
65 70 75 80

Asp Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Asp Asp
85 90 95

Asn Val Tyr Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1611
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1611

Gln Glu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Glu Gly
1 5 10 15

Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Asn Asn
20 25 30

Ala Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ala Cys Ile Tyr Asp Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Thr Trp
50 55 60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65 70 75 80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Ala Tyr Gly Gly Tyr Thr Val Tyr Asp Tyr Ala Phe Asn Leu
100 105 110

Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1612
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1612

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Tyr Thr Thr Asn Leu Glu Thr Gly Val Ser Ser Arg Phe Lys Gly
    50   55   60

Ser Arg Ser Gly Thr Glu Tyr Ala Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Tyr Gly Val Arg Ser Thr Tyr
                85   90   95

Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105

<210> 1613
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1613

Gln Glu Gln Leu Lys Glu Ser Gly Gly Asp Leu Val Thr Pro Gly Thr
1   5   10   15

Pro Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr
            20   25   30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile
        35   40   45

Gly Phe Ile Asp Thr Asp Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Lys
    50   55   60

Gly Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Ile
65   70   75   80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Gly Asp
                85   90   95

```
Ser Tyr Gly Tyr Ala Gly Phe Val Tyr Phe Asn Leu Trp Gly Pro Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser
        115


<210>  1614
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1614

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Ser Ser
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Ser Tyr Tyr Gly Val Asp
                85                  90                  95


Tyr Val Gly Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1615
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1615

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Arg Trp Thr
            20                  25                  30


Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Leu Ile Tyr Ala Ser Asp Asp Thr Val Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Val Arg Val Tyr
                85                  90                  95


Gly Ser Thr Ser Gly Tyr Tyr Asp Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115
```

<210> 1616
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1616

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                  10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Asn Trp
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Phe Gly Asp Gly Asn Ser
                85                  90                  95


Ile Gly His Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1617
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1617

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                  10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asn Tyr Tyr
            20                  25                  30
```

```
Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Asp Lys Ser Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Arg Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Gly Leu Lys Ile Pro
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
                85                  90                  95

Gly Gly Tyr Ala Asp His Gly Leu Gly Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 1618
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1618

```
Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ala Gly Trp
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Gln Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Gly Ser Gly Ser
                85   90   95

Gly Ser Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1619
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1619

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Lys Pro Asp Glu Thr
1   5   10   15

Leu Thr Leu Ile Cys Thr Val Ser Gly Ile Asp Leu Ser Ile Asn Val
            20   25   30

Val Gly Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
        35   40   45

Asp Ile Ser Ser His Gly Asp Thr Ile Tyr Ala Thr Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65   70   75   80

Ser Leu Thr Ala Ser Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Val
                85   90   95

Gly Asp Gly Tyr Tyr Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 1620
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1620

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asn Leu
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Ser Ser Asn
85 90 95

Ile Ala Asn Leu Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1621
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1621

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Arg His Tyr Ala
            20                  25                  30


Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Val Ile Thr Thr Thr Ala Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Val Ser Lys Ala Ser Ser Thr Thr Val Asp Leu Lys Ile
65                  70                  75                  80


Met Ser Pro Thr Ile Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala
                85                  90                  95


Met Gly Leu Tyr Asp Ser Tyr Val Asp Val Asp Asp Thr His Asp Ala
            100                 105                 110


Phe Asp Pro Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 1622
<211> 113
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1622

Ala Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Asn Ser
20 25 30

His Val Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Ala Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Asp Asp
85 90 95

Asp Ala Asp Asn Ile Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Ala

<210> 1623
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1623

Gln Glu Arg Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Ala
1 5 10 15

```
Ser Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Ser Ser Gly
            20                  25                  30

Tyr Asp Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45

Val Gly Cys Ile Asp Thr Gly Thr Gly Thr Ile Tyr Tyr Ala Ser Trp
    50                  55                  60

Ala Pro Gly Arg Phe Thr Ile Ser Glu Thr Ser Ser Thr Met Val Thr
65                  70                  75                  80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95

Ala Arg Ser Val Gly Gly Tyr Asp Tyr Ala Ile Asp Leu Trp Gly Pro
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 1624
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1624

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Gly Ser Arg
            20                  25                  30
```

Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Phe Leu Ile
35 40 45

Tyr Tyr Ala Ser Asn Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln Ser
65 70 75 80

Asp Asn Ala Ala Thr Tyr Tyr Cys Gln Gln Thr Tyr Ser Tyr Ser Asp
85 90 95

Val Asp Asp Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1625
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1625

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ala
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Ile Ile Ser Tyr Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Val Asp
85 90 95

Tyr Gly Asp Tyr Asn Phe Ala Leu Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 1626
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1626

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Val Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Tyr Val Ser Ser
85 90 95

Tyr Phe Ala Phe Ser Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1627
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1627

Gln Glu Gln Leu Lys Glu Ser Gly Gly Gly Val Val Thr Pro Gly Gly
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Ala Ser Ala Phe Ser Leu Asn His Tyr
20 25 30

Asn Ile Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Leu Thr Asp Gly Thr Glu Tyr Tyr Ala Asn Trp Ala Lys
50 55 60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile
65 70 75 80

Ala Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu
85 90 95

Gly Asp Trp Gly Val Asp Ser Leu Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 1628
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1628

Ala Leu Val Met Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Asp Asn Asn
20 25 30

Asp Phe Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Leu Ala Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Lys Gly Leu Tyr Phe Asp
85 90 95

Ser Gly Trp Tyr Ala Ala Phe Gly Gly Gly Thr Glu Val Val Val Glu
100 105 110

<210> 1629
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1629

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

```
Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Asp
            20                  25                  30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Tyr Val Ser Gly Thr Thr Asp Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65                  70                  75                  80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Ile
                85                  90                  95

Tyr Val Asp Glu Ile Gly Cys Phe Asp Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115


<210>  1630
<211>  108
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1630

Asp Ile Leu Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Arg Thr Tyr
            20                  25                  30
```

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Arg Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Ile Glu Phe Ser Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Asp Gly Gly Ser Ser
                85   90   95

Thr Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105

<210> 1631
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1631

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1   5   10   15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Ala Asp
            20   25   30

Met Ser Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Tyr Ile Gly
        35   40   45

Trp Ile Asn Asn Val Gly Ser Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
    50   55   60

Arg Phe Ser Ile Ser Lys Thr Ser Ser Thr Thr Val Asp Leu Lys Val
65   70   75   80

```
Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Val Arg Gly
                85                  90                  95


Tyr Trp Leu Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            100                 105                 110


<210>  1632
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1632

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Ser Ile Ser Cys Gln Ser Ser Val Asn Val Tyr Asn Asn
            20                  25                  30


Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Ile Tyr Ala Ala Ser Thr Leu Pro Ser Gly Val Ser Ser Arg Phe
    50                  55                  60


Ser Gly Asn Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val
65                  70                  75                  80


Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Val Gly Tyr Tyr Ser Ser
                85                  90                  95


Thr Asp Asp Asn Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1633
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1633

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Thr Leu Ser Ser Tyr Tyr
            20                  25                  30


Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Ile Ile Tyr Pro Ser Gly Ser Ala Tyr Tyr Ala Thr Trp Thr Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Val Thr
65                  70                  75                  80


Gly Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Thr
                85                  90                  95


Thr Ser Ser Leu Tyr Tyr Gly Tyr Asn Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115
```

<210> 1634
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1634

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Ala Ser Ile Thr Asn Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Ser Tyr Tyr Cys Gln Ser Asn Tyr Gly Gly Gly Ser
85 90 95

Asp Thr Ser His Thr Phe Gly Gly Gly Thr Gly Val Val Val Lys
100 105 110

<210> 1635
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1635

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ala Gly Ile Asp Leu Asn Ile Cys Gly
20 25 30

```
Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ile Ile Tyr Pro Ser Asp Tyr Thr Tyr Tyr Ala Thr Trp Ala Lys Gly
    50                  55                  60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Leu
                85                  90                  95

Gly His Ala Trp Ser His Phe Asp Leu Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115


<210>  1636
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1636

Ala Phe Glu Leu Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Gly Ser Asp
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Ser Val Ser Asn Leu Pro Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Arg Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Gly Thr Ile Thr
85 90 95

Thr Gly Tyr Ile Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1637
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1637

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Ser Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Phe Ile Ser Ala Ser Gly Ser Ile Tyr Phe Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Ser Asp Ser
85 90 95

```
Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu Trp Gly Pro Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
        115


<210>  1638
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1638

Ala Val Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Arg Ala Ser Glu Asp Val Gly Ser Tyr
            20                  25                  30


Leu Gly Trp Tyr Gln Gln Arg Ala Gly Gln Pro Pro Lys Leu Leu Met
        35                  40                  45


His Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Trp Leu Gly Thr Asn
                85                  90                  95


Thr Asp Lys Met Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1639
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1639

```
Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Asp Leu Ser Ser Tyr Ala
            20                  25                  30


Thr Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45


Ile Ile Tyr Gly Ser Gly Ser Thr Thr Tyr Ala Ser Trp Val Lys Gly
    50                  55                  60


Gln Phe Thr Ile Ser Lys Ser Ser Ser Thr Thr Val Asp Leu Lys Met
65                  70                  75                  80


Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
                85                  90                  95


Leu Val Ala Ser Thr Asp Asn Tyr Asn Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115
```

<210> 1640
<211> 110
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1640

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
20 25 30

Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Leu Ala Ser Ile Leu Ala Ser Gly Val Pro Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Asn Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Asp Val Gly Gly
85 90 95

Gly Glu Arg Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1641
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1641

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asn Tyr His
20 25 30

```
Met Cys Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Ser Ile Thr Thr Ala Asp Glu Thr Thr His Tyr Ala Asn Trp Ala Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Glu Thr Ser Thr Thr Val Asp Leu Arg Ile
65                  70                  75                  80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Ile Tyr Phe Cys Gly Arg Thr
                85                  90                  95

Ile Arg Tyr Asp Asp Tyr Ala Val Asp Leu Trp Gly Pro Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
        115


<210>  1642
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1642

Asp Leu Val Met Thr Gln Thr Pro Ala Ser Met Ser Glu Pro Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Val Gly Gly Tyr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Ala Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45
```

Tyr Ala Ala Gly Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Phe Asp Ser Ser
                85   90   95

Tyr Val Gly Phe Gly Gly Gly Thr Glu Val Val Val Arg
            100   105

<210> 1643
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1643

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ile Lys Ser His
            20   25   30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
        35   40   45

Gly Ile Ala Tyr Asp Asp Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
    50   55   60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65   70   75   80

Ser Pro Thr Thr Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Asp
                85   90   95

Ser Ser Gly Trp Gly Ser Phe Asn Leu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 1644
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1644

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Tyr Ala Thr
20 25 30

Asn Gln Leu Ser Trp Phe Gln Gln Lys Ser Gly Gln Pro Pro Lys Arg
35 40 45

Leu Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Ala Tyr Asp Cys
85 90 95

Ser Gly Gly Asp Cys Arg Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 1645
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1645

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Ala Pro Gly Thr Pro
1               5                  10                  15


Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Arg Tyr Ala
            20                  25                  30


Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35                  40                  45


Ile Ile Asp Asp Asn Asp Ile Thr Tyr Phe Ala Thr Trp Ala Lys Gly
    50                  55                  60


Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Leu Gly Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Thr Ala
                85                  90                  95


Asp Tyr Ala Asp Tyr Ser Phe Gly Leu Trp Gly Pro Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115
```

<210> 1646
<211> 109

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1646

```
Asp Val Val Met Thr Gln Thr Pro Thr Ser Val Ser Glu Pro Val Gly
1               5                  10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Gly Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Arg Pro Gly Gln Arg Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Ala Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Tyr Ala Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Asp Asp Ser Glu
                85                  90                  95


Tyr Phe Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105
```

<210> 1647
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1647

```
Gln Gln Gln Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1               5                  10                  15
```

Thr Leu Thr Leu Thr Cys Thr Ala Ser Gly Ile Asp Phe Ser Ser Tyr
            20   25   30

Trp Met Trp Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ala Cys Ile Tyr Asn Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65   70   75   80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
                85   90   95

Arg Asp Phe His Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
            100   105   110

<210> 1648
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1648

Ala Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1   5   10   15

Ser Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Asn Ile Tyr Lys Asn
            20   25   30

Asn Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Gly
        35   40   45

Leu Ile Tyr Ser Ala Ser Thr Leu Asp Ser Gly Val Pro Leu Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Lys Phe Thr Leu Thr Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Ser Val Ala Cys
85 90 95

Ser Gly Pro Asp Cys Ile Val Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Lys

<210> 1649
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1649

Gln Ser Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser
1 5 10 15

Leu Lys Leu Ser Cys Lys Ala Ser Gly Ile Asp Phe Ser Ser Tyr Gly
20 25 30

Val Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Ala
35 40 45

Tyr Thr Tyr Pro Asp Tyr Gly Ser Thr Asp Tyr Ala Ser Trp Val Asn
50 55 60

Gly Arg Phe Thr Ile Ser Leu Asp Asn Ala Gln Asn Thr Val Phe Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

Ser Ser Ser Asn Gly Trp Gly Gly Gly Phe Tyr Phe Asp Leu Trp Gly
100 105 110

Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1650
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1650

Ala Leu Val Met Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Asn Asp Leu Lys Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Val Tyr Thr Tyr Ile Thr
85 90 95

Thr Asp Pro Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1651
<211> 129
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1651

Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Gly Thr
1 5 10 15

Leu Thr Leu Thr Cys Lys Ala Ser Gly Ile Asp Phe Asn Asn Tyr Tyr
20 25 30

Val Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
35 40 45

Cys Ile Tyr Thr Gly Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys
50 55 60

Gly Arg Phe Thr Ile Thr Arg Ser Ser Ser Thr Thr Val Thr Leu Gln
65 70 75 80

Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg
85 90 95

Pro Glu Phe Tyr Asp Thr Tyr Gly Tyr Ala Gly Tyr Gly Tyr Ala Thr
100 105 110

Pro Asn Tyr Phe Asn Phe Trp Gly Pro Gly Thr Leu Val Thr Val Ser
115 120 125

Ser

<210> 1652
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1652

```
Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                  10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Val Tyr Asn Asn
            20                  25                  30


Asn Leu Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45


Leu Met Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe
    50                  55                  60


Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80


Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Asp Asp
                85                  90                  95


Asp Ala Asp Tyr Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Ala
            100                 105                 110
```

<210> 1653
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1653

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Ser Thr
20 25 30

Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Val Ile Tyr Thr Asp Gly Asp Thr Tyr Tyr Ala Arg Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Ile Asn Leu Ser Ile Thr
65 70 75 80

Ser Pro Thr Ser Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Arg Ala
85 90 95

Asn Gly Tyr Asp Asp Phe Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 1654
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1654

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

```
Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Ser Tyr
            20                  25                  30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Tyr Glu Ser Tyr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65                  70                  75                  80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Phe Ser Tyr Ile Asn
                85                  90                  95

Val Asp Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1655
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1655

```
Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1               5                   10                  15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Asn Met Phe Tyr
            20                  25                  30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Met Ile Asp Ser Met Gly Ser Ala Trp Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60
```

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Ala Val Ala Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala Ile
                85                  90                  95


Asn Gly Asp Gly Ala Gly Asp Leu Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115


<210>  1656
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1656

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Arg Ala Ser Glu Lys Ile Asp Ser Phe
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gly Ala Ser Glu Leu Ala Pro Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ala Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Thr Ala Asp Gly Ser Asp
85 90 95

Tyr Val Gly Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1657
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1657

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Gly Ser
1 5 10 15

Leu Thr Leu Thr Cys Thr Leu Ser Gly Ile Asp Leu Ser Ser Asn Ala
20 25 30

Ile Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Phe Pro Gly Asp Asn Ile Tyr Tyr Ala Thr Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Leu Arg Thr Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr His
85 90 95

Ala Asp Asp Ser Val Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 1658
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1658

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                  10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Asn Gly Trp
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Arg Leu Leu Ile
        35                  40                  45


Tyr Arg Ala Ser Asp Leu Ala Pro Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Glu Ser
65                  70                  75                  80


Ala Asp Ala Ala Thr Tyr Tyr Cys His Leu Gly Asp Ile Tyr Ser Asn
                85                  90                  95


Ile Asp Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1659
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1659

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Ser Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Phe Ile Ser Ala Ile Asp Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Ser Asp Ser
85 90 95

Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu Trp Gly Pro Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1660
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1660

Ala Val Val Leu Thr Gln Thr Pro Ala Ser Val Ser Ala Thr Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Arg Ala Ser Glu Asp Ile Gly Ser Tyr
20 25 30

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

His Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Trp Tyr Ser Ser Asp
85 90 95

Ser Asp Lys Met Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1661
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1661

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Gly
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Asp Gly Gly Asp Ser Pro Tyr Tyr Ala Ser Trp Ala Glu Gly
50 55 60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ile Ala
                85                  90                  95


Gly Ser Asn His Gly Pro Phe Asp Leu Trp Gly Pro Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser
        115


<210>  1662
<211>  109
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1662

Asp Val Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Phe Ile Ser Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Ala Tyr Gly Ser Ser
85 90 95

Tyr Val Gly Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1663
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1663

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Asp Ile Asn Ser Tyr Ala Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Leu Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Ala
85 90 95

Gly Tyr Ala Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 1664
<211> 110

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1664

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Arg Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Glu Pro Gly Gln Arg Pro Lys Leu Leu Ile
35 40 45

Tyr Glu Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Asp Ser Thr Asp
85 90 95

Val Gly Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 1665
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1665

Gln Ser Leu Glu Glu Ser Arg Gly Gly Leu Val Gln Pro Glu Gly Ser
1 5 10 15

```
Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe Ser Ser Gly Tyr
            20                  25                  30

Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45

Gly Cys Ile Tyr Ser Gly Ser Asp Ser Ala Cys Tyr Ala Ser Trp Ala
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65                  70                  75                  80

Gln Met Thr Ser Leu Thr Val Ala Asp Thr Ala Thr Tyr Phe Cys Val
                85                  90                  95

Arg Asp Leu Gly Asp Tyr Asn Ala Leu Ser Tyr Thr Ile Asn Leu Trp
            100                 105                 110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 1666
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 1666

```
Asp Val Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Thr Asn
            20                  25                  30
```

Leu Ala Trp Tyr Gln Glu Lys Ala Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Thr Val Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Thr Thr Tyr Phe Cys Gln Cys Ile Asp Tyr Asp Asp Tyr
85 90 95

Gly Gly Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 1667
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1667

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Asp Tyr Tyr
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Phe Met Asn Ser Gly Gly Asn Ala Tyr Tyr Ala Ser Trp Ala Ser Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

```
Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Val Arg Asp Leu
                85                  90                  95


Ser Arg Phe Ser Leu Trp Gly Arg Gly Thr Leu Val Ile Val Ser Ser
            100                 105                 110


<210>  1668
<211>  111
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1668

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Pro Ser Val Tyr Ser Asp
            20                  25                  30


Tyr Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Trp Ala Ser Thr Leu Thr Ser Gly Val Pro Ser Arg Phe Ser
    50                  55                  60


Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln
65                  70                  75                  80


Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ser Gly Asn
                85                  90                  95


Ser Asp Val Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 1669
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1669

```
Gln Ser Leu Glu Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Ala Ser
1               5                   10                  15


Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Asp Ile Asp Tyr
            20                  25                  30


Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45


Ala Cys Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
    50                  55                  60


Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80


Leu Gln Met Pro Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95


Ala Arg His Tyr Ala Gly Tyr Ala Gly Asp Ala Tyr Ala Thr Asp Tyr
            100                 105                 110


Tyr Phe Asn Leu Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 1670
<211> 106
<212> PRT
<213> Artificial Sequence

<220>

<223> VL

<400> 1670

Asp Ile Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Thr Val Gly
1 5 10 15

Asp Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Ser Asn Phe
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Pro Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Arg Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Met Lys Ala
65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Gly Tyr Tyr Ser Ala Thr
85 90 95

Phe Gly Ala Gly Thr Lys Val Glu Ile Lys
100 105

<210> 1671
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 1671

Gln Ser Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Leu Thr Leu Thr Cys Lys Ala Ser Gly Phe Asp Leu Ser Ser Tyr Tyr
20 25 30

```
Tyr Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45

Gly Cys Phe Tyr Thr Asp Asp Ser Ala Asn Thr Trp Tyr Ala Thr Trp
    50                  55                  60

Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95

Ala Arg Asp Ala Ser Gly Trp Tyr Trp Phe Asn Leu Trp Gly Pro Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115


<210>  1672
<211>  110
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  1672

Ala Gln Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Leu His Asp Asp
            20                  25                  30

Asn Ala Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        35                  40                  45
```

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Leu Ile Tyr Leu Ala Ser Tyr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Glu Val
65   70   75   80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Ala Tyr Ser Gly
                85   90   95

Asp Asn Asn Ser Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 1673
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1673

Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

<210> 1674
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1674

Ile Ser Ser Ser Gly Val Thr
1   5

<210> 1675
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1675

Ala Arg Asp Pro Gly Tyr Ser Thr Gly Trp Asp Tyr Phe Phe Arg Leu
1   5   10   15

<210> 1676
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1676

Glu Asp Ile Glu Ser Tyr
1   5

<210> 1677
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1677

Asp Ala Ser
1

<210> 1678
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1678

Gln His Gly Ala Tyr Thr Ser Ser Ser Asp Phe Phe Tyr Ala
1 5 10

<210> 1679
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1679

Gly Phe Ser Leu Ser Arg Tyr Tyr
1 5

<210> 1680
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1680

Ile Asn Thr Ala Gly Ser Ala
1 5

<210> 1681
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1681

Ala Arg Asp Leu Ser Arg Phe Ser Leu
1 5

<210> 1682
<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1682

Pro Ser Val Tyr Ser Asp Tyr
1 5

<210> 1683
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1683

Trp Ala Ser
1

<210> 1684
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1684

Ala Gly Gly Tyr Ser Gly Asn Ser Asp Asn Trp Ala
1 5 10

<210> 1685
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1685

Gly Ile Asp Leu Ser Ser Tyr Gly
1 5

<210> 1686
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1686

Ile Ser Tyr Gly Gly Ser Thr
1 5

<210> 1687
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1687

Ala Arg Glu Val Pro Tyr Trp Ser Leu
1 5

<210> 1688
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1688

Gln Ser Ile Gly Ser Asp
1 5

<210> 1689
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1689

Asp Ala Ser
1

<210> 1690
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1690

Gln Gln Asp Tyr Ser Tyr Arg Asn Val Asp Asn Thr
1 5 10

<210> 1691
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1691

Gly Phe Ser Leu Ser Thr Tyr Gly
1 5

<210> 1692
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> HCDR2

<400> 1692

Ile Asp Ala Gly Asp Ser Pro
1 5

<210> 1693
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1693

Ala Arg Ile Ala Gly Ser Asn His Gly Pro Phe Ser Leu
1 5 10

<210> 1694
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1694

Glu Phe Ile Ser Asn Tyr
1 5

<210> 1695
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1695

Gly Ala Ser
1

<210> 1696
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1696

Gln Cys Thr Ala Tyr Gly Ser Gly Tyr Val Gly
1   5   10

<210> 1697
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1697

Gly Phe Ser Leu His Asn Tyr Asn
1   5

<210> 1698
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1698

Ile Leu Thr Asp Gly Ser Pro
1   5

<210> 1699
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1699

Ala Arg Met Gly Asp Tyr Asn Ile Asn Gly Leu
1   5   10

<210> 1700
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1700

Gln Arg Ile Tyr Asn Asn Asp Phe
1   5

<210> 1701
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1701

Ala Ala Ser
1

<210> 1702
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1702

Gln Gly Gly Tyr Ser Ser Ser Gly Trp Tyr Leu Pro
1 5 10

<210> 1703
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1703

Gly Ile Asp Leu Asn Asn Tyr Ala
1 5

<210> 1704
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1704

Ile Ser Gly Ala Gly Tyr Thr
1 5

<210> 1705
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1705

Ala Arg Ile Tyr Asp Ser Tyr Gly Tyr Ala Tyr Val Pro Tyr Tyr Asp
1 5 10 15

Met Asp Leu

<210> 1706
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1706

Gln Ser Val Phe Met Asn Asn Tyr
1   5

<210> 1707
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1707

Asp Ala Ser
1

<210> 1708
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1708

Leu Gly Gly Tyr Asp Asp Asp Ser Ala Thr Thr
1   5   10

<210> 1709
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1709

Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

<210> 1710
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1710

Ile Tyr Ser Asp Asp Ile Ala
1   5

<210> 1711
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1711

Ala Arg Gly Asp Gly Asp Arg Ser Ile Trp Ser Phe Asp Leu
1   5   10

<210> 1712
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1712

Glu Ser Val Trp Asn Asn Asn Trp
1 5

<210> 1713
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1713

Glu Ala Ser
1

<210> 1714
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1714

Gln Gly Gly Tyr Tyr Asp Ser Ser Pro Ile Trp Thr
1 5 10

<210> 1715
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1715

Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

<210> 1716
<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1716

Ile Ser Ser Ser Gly Ser Thr
1   5

<210> 1717
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1717

Ala Arg Asp Ala Tyr Pro Ser Tyr Ser Pro Phe Gly Tyr Tyr Phe Thr
1   5   10   15

Leu

<210> 1718
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1718

Glu Asp Ile Tyr Asn Tyr
1   5

<210> 1719
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1719

Asp Ala Ser
1

<210> 1720
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1720

Gln His Gly Tyr Phe Thr Tyr Ser Gly Glu Asn Ala
1   5   10

<210> 1721
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1721

Gly Phe Ser Phe Ser Ser Ser Tyr Tyr
1   5

<210> 1722
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1722

Ile Tyr Thr Gly Asp Gly Ala Ser
1 5

<210> 1723
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1723

Gly Arg Gly Glu Tyr Asp Asn Asp Trp Gly Phe Gly Leu
1 5 10

<210> 1724
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1724

Glu Asp Ile Ser Ser Tyr
1 5

<210> 1725
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1725

Tyr Ala Ser
1

<210> 1726
<211> 10

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1726

Gln Cys Ser Asn Tyr Gly Gly Ser Trp Thr
1 5 10

<210> 1727
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1727

Gly Phe Ser Leu Ser Ser Ser Trp
1 5

<210> 1728
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1728

Ile Asn Thr Gly Gly Arg Ala
1 5

<210> 1729
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1729

Val Arg Gly Ala Ala Gly Tyr Pro Glu Tyr Asp Asp Gly Asp Leu
1 5 10 15

<210> 1730
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1730

Pro Ser Val Tyr His Asn Asn Trp
1 5

<210> 1731
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1731

Glu Ala Ser
1

<210> 1732
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1732

Ala Gly Ser Phe Ser Asp Asn Ile Tyr Thr
1 5 10

<210> 1733
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1733

Gly Phe Ser Leu Ser Gly Tyr Asp
1 5

<210> 1734
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1734

Ile Tyr Ala Gly Ser Thr
1 5

<210> 1735
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1735

Thr Arg Val Gly Ala Gly Tyr Ser Gly Val Trp Ala Tyr Phe Asn Leu
1 5 10 15

<210> 1736
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> LCDR1

<400> 1736

Gln Ser Val Asp Ser Asp Asn Tyr
1 5

<210> 1737
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1737

Asp Ala Ser
1

<210> 1738
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1738

Gln Gly Thr Tyr Gly Asn Ile Gly Trp Tyr Phe Ala
1 5 10

<210> 1739
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1739

Gly Ile Asp Leu Ser Ser Tyr Thr
1 5

<210> 1740
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1740

Ile Gly Thr Ser Gly Thr Thr
1 5

<210> 1741
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1741

Ala Arg Leu Gly Asp Asp Tyr Gly Asp Phe His Phe Asn Leu
1 5 10

<210> 1742
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1742

Gln Asn Ile Gly Asn Tyr
1 5

<210> 1743
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1743

Ala Ala Ser
1

<210> 1744
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1744

Gln Cys Thr Tyr Tyr Asp Ser Thr Tyr Phe Ala
1   5   10

<210> 1745
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1745

Gly Ile Asp Leu Ser Ser Ser Ala
1   5

<210> 1746
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 1746

Ile Gly Tyr Asn Asp Phe Thr
1 5

<210> 1747
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1747

Ala Arg Gly Gly Ser Ser Ser Tyr Ser Asp Tyr Val Phe Asp Pro
1 5 10 15

<210> 1748
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 1748

Gln Ser Ile Tyr Ser Asn
1 5

<210> 1749
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1749

Asp Ala Ser
1

<210> 1750
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1750

Gln Ser Tyr Tyr Gly Ile Ser Ser Tyr Gly Val Ala
1   5   10

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<400> 1751

Gly Phe Ser Leu Ser Thr Tyr Tyr
1   5

<210> 1752
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<400> 1752

Ile His Gly Asp Asp Gly Ser Thr
1   5

<210> 1753
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<220>
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<400> 1753

Ala Arg Gly Leu Pro Tyr Trp Pro Asn Asp Gly Asp Phe Asn Leu
1 5 10 15

<210> 1754
<211> 8
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<400> 1754

Gln Ser Val Tyr Asn Asn Asn Trp
1 5

<210> 1755
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<400> 1755

Gly Ala Ser
1

<210> 1756
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<400> 1756

Ala Gly Gly Tyr Tyr Thr Thr Ser Asp Asn Gly
1 5 10

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<400> 1757

Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

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<400> 1758

Ile Asn Thr Ala Gly Gly Thr
1 5

<210> 1759
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<400> 1759

Ala Arg Tyr Asp Tyr Tyr Tyr Phe Asp Leu
1 5 10

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Gln Ser Val Tyr Asp Asn Asn Trp
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<400> 1761

Ser Ala Ser
1

<210> 1762
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<400> 1762

His Gly Val Tyr Ser Gly Ser Ile His Ala
1 5 10

<210> 1763
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<400> 1763

Gly Phe Ser Leu Ser Asn Tyr Tyr
1 5

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Ile Gly Ser Gly Val Ser Thr
1 5

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<400> 1765

Ala Arg Asp Met Tyr Val Gly Asn Trp Gly Asp Trp Gly Leu
1 5 10

<210> 1766
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<400> 1766

Gln Ser Ile Ser Asn Asn
1 5

<210> 1767
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<400> 1767

Ser Val Ser
1

<210> 1768
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<400> 1768

Gln Gln Asp Tyr Arg Ile Gly Asp Leu Asp Ser Ala
1   5   10

<210> 1769
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<400> 1769

Gly Phe Ser Phe Ser Asn Ser Tyr Trp
1   5

<210> 1770
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<400> 1770

Ile Tyr Leu Gly Ser Ala Gly Thr Thr
1 5

<210> 1771
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<400> 1771

Ala Arg Ala Gly His Asp Tyr Trp Gly Ala Tyr His Thr Leu
1 5 10

<210> 1772
<211> 6
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<400> 1772

Gln Asn Ile Asp Asn Thr
1 5

<210> 1773
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<400> 1773

His Ala Ser
1

<210> 1774
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<400> 1774

Gln Cys Pro Tyr Tyr Gly Ser Thr Tyr Val Tyr Ser
1   5   10

<210> 1775
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<220>
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<400> 1775

Gly Ile Asp Leu Ser Asn His Gly
1   5

<210> 1776
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<400> 1776

Ile Tyr Ile Asp Gly Gly Ala
1   5

<210> 1777
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<220>
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<400> 1777

Ala Arg Gly Ile Pro Ser Asp Gly Asp Ser Ser Tyr Tyr Tyr Phe Asn
1 5 10 15

Leu

<210> 1778
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<400> 1778

Gln Ser Val Tyr Asn Lys Tyr
1 5

<210> 1779
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<400> 1779

Arg Ala Ser
1

<210> 1780
<211> 13
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<220>
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<400> 1780

Gln Asn Asn Asn Gly Ala Gly Asp Asn Thr Asp Tyr Thr
1 5 10

<210> 1781
<211> 8
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<220>
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<400> 1781

Gly Phe Ser Leu Ser Arg Tyr Ala
1 5

<210> 1782
<211> 7
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<400> 1782

Ile Ser Ser Ser Gly Thr Thr
1 5

<210> 1783
<211> 19
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<213> Artificial Sequence

<220>
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<400> 1783

Ala Arg Ala Ile Ala Gly Asp Ala Gly Tyr Val Tyr Ala Ile Asp Trp
1 5 10 15

Leu Asp Leu

<210> 1784
<211> 6
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<220>
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<400> 1784

Glu Tyr Ile Ser Asn Tyr
1 5

<210> 1785
<211> 3
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<220>
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<400> 1785

Gly Ala Ser
1

<210> 1786
<211> 13
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<220>
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<400> 1786

Gln Gly Gly Tyr Phe Ser Ser Ser Thr Thr Tyr Val Ala
1 5 10

<210> 1787
<211> 8
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<220>
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<400> 1787

Gly Phe Thr Leu Ser Gly Tyr Trp
1   5

<210> 1788
<211> 8
<212> PRT
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<220>
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<400> 1788

Ile Tyr Asn Gly Asp Gly Ser Thr
1   5

<210> 1789
<211> 12
<212> PRT
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<220>
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<400> 1789

Ala Arg Asp Ser Asn Gly Trp Gly Ala Tyr Gly Leu
1   5   10

<210> 1790
<211> 6
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<220>
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<400> 1790

Gln Ser Ile Gly Ser Tyr
1 5

<210> 1791
<211> 3
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<220>
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<400> 1791

Asp Ala Ser
1

<210> 1792
<211> 12
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<220>
<223> LCDR3

<400> 1792

Gln Gly Gly Tyr Tyr Ser Ser Ala Thr Glu Ile Ala
1 5 10

<210> 1793
<211> 8
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<220>
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<400> 1793

Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

<210> 1794
<211> 7

<212> PRT
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<220>
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<400> 1794

Ile Ser Thr Ser Ala Asn Thr
1 5

<210> 1795
<211> 22
<212> PRT
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<220>
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<400> 1795

Ala Arg Val Val Gly Leu Tyr Asp Ser Tyr Gly Asp Val Asp Ala Thr
1 5 10 15

Tyr Asp Ala Phe Asp Pro
20

<210> 1796
<211> 8
<212> PRT
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<220>
<223> LCDR1

<400> 1796

Gln Ser Val Tyr Asn Asn Asn Leu
1 5

<210> 1797
<211> 3
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<220>
<223> LCDR2

<400> 1797

Asp Ala Ser
1

<210> 1798
<211> 12
<212> PRT
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<220>
<223> LCDR3

<400> 1798

Leu Gly Gly Tyr Asp Asp Asp Ala Asp Ile Tyr Ala
1   5   10

<210> 1799
<211> 8
<212> PRT
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<220>
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<400> 1799

Gly Phe Ser Leu Asn Ser Tyr Asp
1   5

<210> 1800
<211> 7
<212> PRT
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<220>
<223> HCDR2

<400> 1800

Ile Ser Ala Ser Gly Ser Ile
1 5

<210> 1801
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1801

Ala Ser Asp Ser Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu
1 5 10 15

<210> 1802
<211> 6
<212> PRT
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<220>
<223> LCDR1

<400> 1802

Glu Asp Ile Gly Ser Tyr
1 5

<210> 1803
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 1803

Asp Ala Ser
1

<210> 1804
<211> 13

<212> PRT
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<220>
<223> LCDR3

<400> 1804

Gln Ser Ala Trp Tyr Ser Ser Gly Thr Asp Lys Met Ala
1 5 10

<210> 1805
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 1805

Gly Phe Ser Phe Ser Ser Ala Asn Cys
1 5

<210> 1806
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<212> PRT
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<220>
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<400> 1806

Val Cys Ile Gly Asp Gly Thr Thr
1 5

<210> 1807
<211> 6
<212> PRT
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<220>
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<400> 1807

Ala Arg Asp Leu Gly Leu
1 5

<210> 1808
<211> 8
<212> PRT
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<220>
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<400> 1808

Glu Ser Val Asp Lys Tyr Thr Gln
1 5

<210> 1809
<211> 3
<212> PRT
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<220>
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<400> 1809

Tyr Ala Ser
1

<210> 1810
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<212> PRT
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<220>
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<400> 1810

Ser Gly Tyr Lys Gly Gly Ser Ala Asp Met Ile Ala
1 5 10

<210> 1811
<211> 8
<212> PRT
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<220>
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<400> 1811

Gly Phe Ser Leu Ser Asn Tyr Ala
1 5

<210> 1812
<211> 7
<212> PRT
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<220>
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<400> 1812

Ile Ser Gly Ser Gly Ser Thr
1 5

<210> 1813
<211> 12
<212> PRT
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<220>
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<400> 1813

Gly Arg Gly Arg Asp Asp Asp Tyr Ala Trp Asp Leu
1 5 10

<210> 1814
<211> 6
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<220>

<223> LCDR1

<400> 1814

Gln Thr Ile Ser Asn Tyr
1 5

<210> 1815
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<400> 1815

Ala Ala Ser
1

<210> 1816
<211> 11
<212> PRT
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<400> 1816

His Cys Thr Tyr Tyr Asp Ser Ser Tyr His Gly
1 5 10

<210> 1817
<211> 9
<212> PRT
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<220>
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<400> 1817

Gly Phe Ser Phe Ser Ser Ala Tyr Tyr
1 5

<210> 1818
<211> 9
<212> PRT
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<220>
<223> HCDR2

<400> 1818

Ile Asp Ala Gly Ser Ser Gly Ser Thr
1 5

<210> 1819
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1819

Ala Arg Asp Gly Gly Ser Thr Thr Gly Tyr Gly Trp Leu Asp Leu
1 5 10 15

<210> 1820
<211> 7
<212> PRT
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<220>
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<400> 1820

Gln Ser Ile Gly Thr Asn Tyr
1 5

<210> 1821
<211> 3
<212> PRT
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<220>
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<400> 1821

Glu Ala Ser
1

<210> 1822
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1822

Leu Tyr Ser Tyr Tyr Ser Ser Ser Ser Ala Tyr Thr
1   5   10

<210> 1823
<211> 8
<212> PRT
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<220>
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<400> 1823

Gly Phe Ser Leu Ser Thr Tyr Asn
1   5

<210> 1824
<211> 7
<212> PRT
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<220>
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<400> 1824

Met Ala Phe Asp Gly Asn Thr
1 5

<210> 1825
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1825

Cys Lys Gly Asp Pro Ser Ser Asp Thr Gly Thr Thr Leu
1 5 10

<210> 1826
<211> 8
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<220>
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<400> 1826

Pro Ser Val Tyr Ser Asn Asn Trp
1 5

<210> 1827
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1827

Ala Ala Ala
1

<210> 1828
<211> 11

<212> PRT
<213> Artificial Sequence

<220>
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<400> 1828

Ala Gly Gly Phe Asn Ser Asp Ser Asp Thr Thr
1   5   10

<210> 1829
<211> 8
<212> PRT
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<220>
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<400> 1829

Gly Phe Ser Leu Ile Asn Tyr Asn
1   5

<210> 1830
<211> 7
<212> PRT
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<220>
<223> HCDR2

<400> 1830

Ile Leu Thr Asp Gly Thr Val
1   5

<210> 1831
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1831

Ala Arg Asp Tyr Pro Ser Tyr Ile Ala Phe Asp Leu
1 5 10

<210> 1832
<211> 8
<212> PRT
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<220>
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<400> 1832

Gln Ser Val Tyr Asn Asp Asp Asn
1 5

<210> 1833
<211> 3
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<220>
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<400> 1833

Gly Ala Ser
1

<210> 1834
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1834

Gln Gly Gly Gly Phe Ser Ser Gly Trp Tyr Trp Ala
1 5 10

<210> 1835
<211> 8
<212> PRT
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<220>
<223> HCDR1

<400> 1835

Gly Phe Ser Leu Ser Thr Tyr Asp
1 5

<210> 1836
<211> 7
<212> PRT
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<220>
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<400> 1836

Ile Gly Gly Ser Gly Phe Thr
1 5

<210> 1837
<211> 7
<212> PRT
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<220>
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<400> 1837

Ala Arg Asn Asn Tyr Asp Met
1 5

<210> 1838
<211> 6
<212> PRT
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<220>

<223> LCDR1

<400> 1838

Gln Ser Ile Ser Asn Glu
1 5

<210> 1839
<211> 3
<212> PRT
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<220>
<223> LCDR2

<400> 1839

Gly Ala Ser
1

<210> 1840
<211> 13
<212> PRT
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<220>
<223> LCDR3

<400> 1840

Gln Cys Thr Tyr Tyr Gly Ser Ser Tyr Val Gly Gly Ala
1 5 10

<210> 1841
<211> 8
<212> PRT
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<220>
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<400> 1841

Gly Phe Ser Leu Gly Ser Tyr Pro
1 5

<210> 1842
<211> 8
<212> PRT
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<220>
<223> HCDR2

<400> 1842

Ile Asp Pro Gly Arg Gly Thr Thr
1   5

<210> 1843
<211> 12
<212> PRT
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<220>
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<400> 1843

Ala Arg Ser Tyr Pro Gly Asp Gly Ala Gly Asp Leu
1   5   10

<210> 1844
<211> 6
<212> PRT
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<220>
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<400> 1844

Glu Ser Ile Ser Asn Tyr
1   5

<210> 1845
<211> 3
<212> PRT
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<220>
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<400> 1845

Gly Ala Ser
1

<210> 1846
<211> 13
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<220>
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<400> 1846

Gln Cys Thr Tyr Tyr Gly Ser Gly Asp Val Gly Gly Ala
1   5   10

<210> 1847
<211> 8
<212> PRT
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<220>
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<400> 1847

Gly Phe Asp Phe Ser Ser Gly Tyr
1   5

<210> 1848
<211> 8
<212> PRT
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<220>
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<400> 1848

Ile Asp Pro Val Phe Gly Ser Thr
1 5

<210> 1849
<211> 16
<212> PRT
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<220>
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<400> 1849

Ala Arg Asp Leu Arg Ala Phe Tyr Ser Gly Trp Gly Gly Ile Asn Leu
1 5 10 15

<210> 1850
<211> 8
<212> PRT
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<220>
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<400> 1850

Gln Ile Val Val Asn Asn Asn Phe
1 5

<210> 1851
<211> 3
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<220>
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<400> 1851

Asp Ala Ser
1

<210> 1852
<211> 11

<212> PRT
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<220>
<223> LCDR3

<400> 1852

Leu Gly Gly Tyr Asp Asp Asp Ala Glu Asn Ala
1 5 10

<210> 1853
<211> 8
<212> PRT
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<220>
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<400> 1853

Gly Phe Ser Leu Asn Ser Tyr Asp
1 5

<210> 1854
<211> 7
<212> PRT
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<220>
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<400> 1854

Ile Ser Ala Ser Gly Ser Ile
1 5

<210> 1855
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1855

Ala Ser Asp Ser Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu
1 5 10 15

<210> 1856
<211> 6
<212> PRT
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<220>
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<400> 1856

Glu Asp Ile Gly Ser Tyr
1 5

<210> 1857
<211> 3
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<220>
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<400> 1857

Asp Ala Ser
1

<210> 1858
<211> 13
<212> PRT
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<220>
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<400> 1858

Gln Ser Ala Trp Tyr Ser Ser Asn Thr Asp Lys Met Ala
1 5 10

<210> 1859
<211> 8
<212> PRT
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<220>
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<400> 1859

Glu Phe Ser Leu Ser Ser Asn Ala
1 5

<210> 1860
<211> 7
<212> PRT
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<220>
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<400> 1860

Ile Asp Ser Gly Gly Asp Ala
1 5

<210> 1861
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 1861

Gly Arg Gly Tyr Trp Phe Pro Arg Leu Gly Leu
1 5 10

<210> 1862
<211> 8
<212> PRT
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<220>

<223> LCDR1

<400> 1862

Lys Asn Val Tyr Leu Asn Asn Trp
1   5

<210> 1863
<211> 3
<212> PRT
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<220>
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<400> 1863

Asp Ala Ser
1

<210> 1864
<211> 11
<212> PRT
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<220>
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<400> 1864

Ala Gly Ala Tyr Asp Asp Asn Ser Asp His Thr
1   5   10

<210> 1865
<211> 9
<212> PRT
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<220>
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<400> 1865

Gly Phe Ser Phe Asn Val Asp Tyr Tyr
1   5

<210> 1866
<211> 9
<212> PRT
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<220>
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<400> 1866

Ile Tyr Val Gly Ser Glu Gly Ser Thr
1   5

<210> 1867
<211> 20
<212> PRT
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<220>
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<400> 1867

Ala Arg His Tyr Ala Gly Tyr Ala Gly Tyr Asn Tyr Ala Thr Asp Tyr
1   5   10   15

Tyr Phe Thr Leu
            20

<210> 1868
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<220>
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<400> 1868

Gln Ser Val Thr Asn Phe
1   5

<210> 1869
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<220>
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<400> 1869

Gly Ala Ser
1

<210> 1870
<211> 8
<212> PRT
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<220>
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<400> 1870

Gln Ser Gly Tyr Tyr Ser Ala Thr
1 5

<210> 1871
<211> 8
<212> PRT
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<220>
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<400> 1871

Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

<210> 1872
<211> 7
<212> PRT
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<220>

<223> HCDR2

<400> 1872

Ile Ser Ser Gly Gly Asn Thr
1   5

<210> 1873
<211> 15
<212> PRT
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<220>
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<400> 1873

Ala Arg Gly Ile His Ser Tyr Asp Asp Tyr Leu Gly Tyr Lys Leu
1   5   10   15

<210> 1874
<211> 6
<212> PRT
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<220>
<223> LCDR1

<400> 1874

Glu Phe Leu Phe Asn Ala
1   5

<210> 1875
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<400> 1875

Gly Ala Ser
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<210> 1876
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<220>
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<400> 1876

Leu Gly Gly Tyr Lys Arg Ala Asp Leu Thr
1   5   10

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<400> 1877

Gly Phe Ser Leu Asn Asp Tyr Ala
1   5

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<400> 1878

Ile Tyr Thr Ser Gly Thr Pro
1   5

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<400> 1879

Ala Arg Gln Ser Gly Ile Asp Asn Tyr Trp Leu Phe Thr Leu
1   5   10

<210> 1880
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<400> 1880

Glu Ser Ile Ala Ser Gly
1   5

<210> 1881
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<400> 1881

Ser Ala Ser
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<400> 1882

Gln Gln Gly Tyr Thr Ser Thr Asn Leu His Asn Val
1 5 10

<210> 1883
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Gly Phe Ser Leu Ser Ala Tyr Trp
1 5

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<400> 1884

Ile Tyr Ala Thr Gly Ser Thr
1 5

<210> 1885
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<220>
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<400> 1885

Gly Arg Gly Asp Gly Tyr Glu Ser Leu Asn Leu
1 5 10

<210> 1886
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<220>
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<400> 1886

Gln Ser Val Tyr Ser Asn Asn Leu
1 5

<210> 1887
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<400> 1887

Gly Ala Ser
1

<210> 1888
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<400> 1888

Leu Gly Tyr Tyr Ser Gly Gly Ile Tyr Val
1 5 10

<210> 1889
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<400> 1889

Gly Phe Ser Leu Ser Ser Tyr Tyr
1 5

<210> 1890
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<400> 1890

Ile Asp Thr Gly Ser Gly Asp Thr
1 5

<210> 1891
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<220>
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<400> 1891

Ala Arg Val Asn Pro Glu Phe Ala His Val Trp Pro Tyr Tyr Phe Asp
1 5 10 15

Leu

<210> 1892
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<400> 1892

Gln Ser Ile Ser Ser Asn Phe
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<210> 1893
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<400> 1893

Arg Ala Ser
1

<210> 1894
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<400> 1894

Gln Gln Gly Asp Ser Leu Ser Asn Val Glu Asn Ala
1 5 10

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Gly Phe Ser Leu Ser Asn Tyr Asn
1 5

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<400> 1896

Ile Ser Thr Asp Gly Ser Ala
1 5

<210> 1897
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<213> Artificial Sequence

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<400> 1897

Ala Arg Leu Tyr Tyr Arg His Gly Tyr Ala Leu Asn Leu
1 5 10

<210> 1898
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<212> PRT
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<220>
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<400> 1898

Gln Ser Val Gly Ser Tyr
1 5

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<220>
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<400> 1899

Ser Ala Ser
1

<210> 1900
<211> 14
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<220>
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<400> 1900

His Cys Thr Tyr Gly Ser Asn Ile Thr Ala Asn Trp Gly Thr
1 5 10

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<400> 1901

Gly Phe Asp Phe Asn Asn Asn Ala
1 5

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<220>
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<400> 1902

Ile Tyr Asp Gly Ser Ser Gly Ser Thr
1 5

<210> 1903
<211> 16
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<400> 1903

Ala Arg Ala Tyr Ala Ala Tyr Thr Val Tyr Asp Tyr Ala Phe Asn Leu
1 5 10 15

<210> 1904
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<220>
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<400> 1904

Gln Ser Ile Gly Ser Asp
1 5

<210> 1905
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<220>
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<400> 1905

Tyr Thr Thr
1

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<400> 1906

Gln Tyr Ala Asp Arg Ser Ser Tyr Ser
1   5

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<400> 1907

Gly Phe Ser Leu Ser Arg Tyr Thr
1   5

<210> 1908
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<400> 1908

Ile Tyr Gly Asp Asp Asn Thr
1   5

<210> 1909
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<400> 1909

Ala Ser Cys Ala Pro Ile Tyr Tyr Asn Thr Phe Ser Phe Asn Leu
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<400> 1910

Gln Thr Ile Gly Gly Ser
1   5

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<400> 1911

Ala Ala Ala
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<210> 1912
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<400> 1912

Gln Gln His Tyr Thr Gly Asp Asn Val Asn Asn Pro
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<400> 1913

Gly Phe Ser Leu Ser Arg Tyr His
1   5

<210> 1914
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<220>
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<400> 1914

Ile His Thr Asp Asp Thr Asn
1   5

<210> 1915
<211> 13
<212> PRT
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<220>
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<400> 1915

Ala Arg Val Ser Ser Val Gly Gly Tyr Tyr Phe Asp Leu
1   5   10

<210> 1916
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<220>
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<400> 1916

Glu Asp Ile Tyr Asn Leu
1 5

<210> 1917
<211> 3
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<220>
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<400> 1917

Ala Ala Ser
1

<210> 1918
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<220>
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<400> 1918

Gln Asn Asn Tyr Leu Ile Ser Ser Tyr Gly Val Gly
1 5 10

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<400> 1919

Gly Phe Ser Leu Ser Gly Tyr Asp
1 5

<210> 1920
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<212> PRT
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<220>
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<400> 1920

Ile Tyr Gly Gly Asn Thr
1 5

<210> 1921
<211> 16
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<400> 1921

Thr Arg Val Gly Ala Gly Tyr Ser Gly Val Trp Ala Tyr Phe Asn Leu
1 5 10 15

<210> 1922
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<400> 1922

Gln Ser Val Asp Ser Asp Asn Tyr
1 5

<210> 1923
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<400> 1923

Asp Thr Ser
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<210> 1924
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<400> 1924

Gln Gly Thr Tyr Tyr Asn Gly Trp Tyr Phe Ala
1 5 10

<210> 1925
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<220>
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<400> 1925

Gly Phe Ser Leu Thr Asn Tyr Ala
1 5

<210> 1926
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<220>
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<400> 1926

Ile Asn Tyr Asp Gly Asn Thr
1 5

<210> 1927
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<220>
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<400> 1927

Ala Arg Gly Gly Asp Gly Tyr Thr His Ile Pro Asp Thr Phe Asp Pro
1 5 10 15

<210> 1928
<211> 6
<212> PRT
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<220>
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<400> 1928

Gln Ser Ile Tyr Ser Tyr
1 5

<210> 1929
<211> 3
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<220>
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<400> 1929

Tyr Ala Ser
1

<210> 1930
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<223> LCDR3

<400> 1930

Gln Gln Gly Tyr Ser Tyr Ser Asn Ile Asp Asn Val
1   5   10

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<400> 1931

Gly Phe Asp Leu Ser Ser Tyr Tyr
1   5

<210> 1932
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<400> 1932

Ile Tyr Thr Asp Ser Ser Ala
1   5

<210> 1933
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<400> 1933

Ala Arg Gly Leu Val Val Ser Thr Asp Asn Tyr Asn Leu
1   5   10

<210> 1934
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<220>
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<400> 1934

Gln Ser Ile Tyr Asn Asn Asn Tyr
1   5

<210> 1935
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<220>
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<400> 1935

Tyr Thr Ser
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<220>
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<400> 1936

Leu Gly Asp Val Gly Gly Gly Met Arg Val
1   5   10

<210> 1937
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<220>
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<400> 1937

Gly Phe Ser Leu Asn Asn Trp Val
1   5

<210> 1938
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<400> 1938

Ile Asp Ile Val Gly Ser Gly Ser Thr
1   5

<210> 1939
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<220>
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<400> 1939

Ala Arg Gly Val Asn Gly Asp Gly Asn Leu Asn Leu
1   5   10

<210> 1940
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<220>
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<400> 1940

Glu Thr Ile Ser Asn Tyr
1 5

<210> 1941
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<220>
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<400> 1941

Gly Ala Ser
1

<210> 1942
<211> 11
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<220>
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<400> 1942

Gln Cys Thr Tyr Val Gly Asp Ser Tyr Thr Ala
1 5 10

<210> 1943
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<220>
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<400> 1943

Gly Phe Ser Leu Ser Asn Tyr Ala
1 5

<210> 1944
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<212> PRT
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<220>
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<400> 1944

Ile Ser Pro Ser Gly Asn Thr
1   5

<210> 1945
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<212> PRT
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<220>
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<400> 1945

Ala Arg Glu Gly Ala Leu Tyr Asp Asp Tyr Gly Asp Tyr Val Asp Ala
1   5   10   15

Phe Asp Pro

<210> 1946
<211> 8
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<220>
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<400> 1946

Glu Ser Val Tyr Asn Asn Asn Trp
1   5

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<220>
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<400> 1947

Arg Ala Ser
1

<210> 1948
<211> 12
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<220>
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<400> 1948

Ala Gly Gly Tyr Ser Ser Ser Ser Asp Ile Asn Ala
1   5   10

<210> 1949
<211> 9
<212> PRT
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<220>
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<400> 1949

Gly Leu Ser Phe Ser Gly Ser Tyr Trp
1   5

<210> 1950
<211> 9
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<220>
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<400> 1950

Ile Thr Ala Gly Ile Ser Gly Ser Thr
1 5

<210> 1951
<211> 13
<212> PRT
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<220>
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<400> 1951

Ala Arg Glu Arg Thr Gly Gly Trp Gly Asp Phe Asn Leu
1 5 10

<210> 1952
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<220>
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<400> 1952

Gln Ser Ile Thr Thr Tyr
1 5

<210> 1953
<211> 3
<212> PRT
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<220>
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<400> 1953

Leu Ala Ser
1

<210> 1954
<211> 13

<212> PRT
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<220>
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<400> 1954

Gln Cys Thr Asp Gly Gly Ile Asn His Trp Phe Trp Ala
1   5   10

<210> 1955
<211> 9
<212> PRT
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<220>
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<400> 1955

Gly Phe Ser Phe Ser Ser Gly Tyr Asp
1   5

<210> 1956
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<220>
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<400> 1956

Ile Asp Thr Ala Thr Asp Thr Ile
1   5

<210> 1957
<211> 13
<212> PRT
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<220>
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<400> 1957

Ala Arg Ser Val Gly Gly Val Asp Tyr Ala Ile Asp Leu
1 5 10

<210> 1958
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<212> PRT
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<220>
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<400> 1958

Gln Asn Ile Gly Ser Arg
1 5

<210> 1959
<211> 3
<212> PRT
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<220>
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<400> 1959

Tyr Ala Ser
1

<210> 1960
<211> 12
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<220>
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<400> 1960

Gln Gln Thr Tyr Ser Tyr Ser Asp Val Asp Asp Thr
1 5 10

<210> 1961
<211> 8
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<220>
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<400> 1961

Gly Phe Ser Leu Ser Thr Tyr Ala
1 5

<210> 1962
<211> 7
<212> PRT
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<220>
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<400> 1962

Ile Ala Gly Gly Gly Asn Thr
1 5

<210> 1963
<211> 12
<212> PRT
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<220>
<223> HCDR3

<400> 1963

Ala Arg Ala Asp Tyr Leu Gly Tyr Gly Asn Asn Phe
1 5 10

<210> 1964
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> LCDR1

<400> 1964

Gln Ser Val Tyr Asn Asn Asn Tyr
1   5

<210> 1965
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<220>
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<400> 1965

Trp Ala Ser
1

<210> 1966
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1966

Leu Gly Val Tyr Asp Asp Asp Ala Asp Asn Gly
1   5   10

<210> 1967
<211> 8
<212> PRT
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<220>
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<400> 1967

Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

<210> 1968
<211> 7
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<220>
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<400> 1968

Ile Ser Tyr Asp Gly Ser Thr
1   5

<210> 1969
<211> 12
<212> PRT
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<220>
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<400> 1969

Ala Arg Ala Arg Ile Asp Asp Gly Tyr Gly Asn Leu
1   5   10

<210> 1970
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<212> PRT
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<220>
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<400> 1970

Glu Ser Ile Ser Asn Tyr
1   5

<210> 1971
<211> 3
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<220>
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<400> 1971

Ala Ala Ser
1

<210> 1972
<211> 12
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<220>
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<400> 1972

Gln Cys Thr Tyr Val Ala Ser Thr Tyr Val Gly Thr
1   5   10

<210> 1973
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<212> PRT
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<220>
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<400> 1973

Gly Phe Ser Leu Ser Thr Tyr Tyr
1   5

<210> 1974
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<220>
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<400> 1974

Ile Tyr Val Arg Gly Gly Ala
1 5

<210> 1975
<211> 7
<212> PRT
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<220>
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<400> 1975

Ala Arg Glu Gly Leu Ser Leu
1 5

<210> 1976
<211> 8
<212> PRT
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<220>
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<400> 1976

Gln Ser Val Tyr Lys Asn Asn Arg
1 5

<210> 1977
<211> 3
<212> PRT
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<220>
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<400> 1977

Glu Thr Ser
1

<210> 1978
<211> 13

<212> PRT
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<220>
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<400> 1978

Leu Gly Gly Tyr Asp Cys Gly Ser Ala Asp Cys Asn Ala
1   5   10

<210> 1979
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1979

Gly Phe Ser Leu Asn Asn Asn Tyr Trp
1   5

<210> 1980
<211> 9
<212> PRT
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<220>
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<400> 1980

Ile Tyr Val Gly Val Val Ser Leu Thr
1   5

<210> 1981
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1981

Ala Arg Ser Leu Tyr Ser Gly Tyr Ala Gly Tyr Gly Asp Gly Tyr Tyr
1 5 10 15

Gly Met Asp Leu
20

<210> 1982
<211> 6
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<220>
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<400> 1982

Gln Ser Ile Gly Ser Asp
1 5

<210> 1983
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<220>
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<400> 1983

Ala Ala Ser
1

<210> 1984
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 1984

Gln Cys Thr Asp Tyr Val Asp Ser His Asp Thr
1 5 10

<210> 1985
<211> 8
<212> PRT
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<220>
<223> HCDR1

<400> 1985

Gly Ile Asp Leu Ser Ser Tyr Ala
1 5

<210> 1986
<211> 7
<212> PRT
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<220>
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<400> 1986

Ile Ser Gly Ser Gly Asn Thr
1 5

<210> 1987
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1987

Cys Arg Gly Asp Pro Ser Tyr Ser Ile Asp Gly Phe Asp Pro
1 5 10

<210> 1988
<211> 8

<212> PRT
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<220>
<223> LCDR1

<400> 1988

Gln Ser Val Tyr Asn Asn Asn Asp
1   5

<210> 1989
<211> 3
<212> PRT
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<220>
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<400> 1989

Arg Ala Ser
1

<210> 1990
<211> 12
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<220>
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<400> 1990

Leu Gly Ala Trp Asp Asp Asp Ala Asp Thr Trp Ala
1   5   10

<210> 1991
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<220>
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<400> 1991

Gly Phe Ser Leu Ser Asn Tyr Tyr
1 5

<210> 1992
<211> 7
<212> PRT
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<220>
<223> HCDR2

<400> 1992

Ile Asp Lys Ser Gly Ser Ala
1 5

<210> 1993
<211> 14
<212> PRT
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<220>
<223> HCDR3

<400> 1993

Ala Arg Gly Tyr Gly Gly Tyr Ala Asp His Gly Leu Gly Leu
1 5 10

<210> 1994
<211> 6
<212> PRT
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<220>
<223> LCDR1

<400> 1994

Gln Ser Ile Ala Gly Trp
1 5

<210> 1995
<211> 3
<212> PRT
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<220>
<223> LCDR2

<400> 1995

Gln Ala Ser
1

<210> 1996
<211> 12
<212> PRT
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<220>
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<400> 1996

Gln Cys Thr Tyr Gly Ser Ala Ser Gly Ser Asn Gly
1 5 10

<210> 1997
<211> 8
<212> PRT
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<220>
<223> HCDR1

<400> 1997

Gly Phe Ser Leu Ser Ser Phe Ala
1 5

<210> 1998
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> HCDR2

<400> 1998

Ile Ser Ser Ser Gly Thr Thr
1   5

<210> 1999
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
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<400> 1999

Ala Ser His Tyr Asp Asp Tyr Gly Asp Ser Asp Ala Leu Asp Pro
1   5   10   15

<210> 2000
<211> 6
<212> PRT
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<220>
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<400> 2000

Glu Asp Ile Tyr Ser Asn
1   5

<210> 2001
<211> 3
<212> PRT
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<220>
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<400> 2001

Arg Ala Ser
1

<210> 2002
<211> 11
<212> PRT
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Leu Gly Val Asp Arg His Ile Ser Asp Arg Ala
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Gly Phe Asp Phe Ser Tyr Asn Ser
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Ile Tyr Asn Gly Asp Gly Ser Thr
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Thr Arg Asp Phe Gly Leu
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Glu Ser Val Ala Asn His Lys Gln
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Tyr Ala Ser
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Ser Gly Tyr Lys Ser Ile Ser Thr Asp Gly Asn Ala
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Gly Ile Asp Leu Ser Lys Tyr Thr
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Ile Ser Phe Gly Gly Arg Gly Gly Thr
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Ala Arg Ala Arg Tyr Ser Gly Thr Asn Tyr Asp Tyr Phe Asn Leu
1 5 10 15

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Gln Ser Ile Ser Asn Trp
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Gly Ala Ser
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Gln Gln Gly Tyr Ser Ser Asp Gly Val Thr Asn Ala
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Gly Ile Asp Leu Ser Ser Gly Ala
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Ile Tyr Thr Gly Ser Gly Thr Thr
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Ala Arg Asp Ala Ala Ser Ser Tyr Trp Gly His Phe Thr Leu
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Glu Asn Ile Tyr Ser Ser
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Arg Thr Ser
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Gln Ser Tyr Tyr His Asn Ser Gly Gly Gly Tyr Asp Tyr Gly
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Gly Phe Phe Phe Ser Gly Ser Tyr Tyr
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Ile Tyr Thr Gly Ser Asp Asp Asp Thr
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Ala Arg Arg Asn Tyr Asp Thr Asp Trp Gly Gly Asp Leu
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Gln Ser Ile Gly Ser Ser
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Tyr Ala Ser
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Gln Cys Thr Tyr Thr Ser Ser Asp Tyr Leu Asp Ala
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Gly Phe Ser Phe Ser Tyr Tyr Trp
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Ile Gly Thr Gly Ser Gly Ser Thr
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Ala Arg Asp Trp Gly Ile Tyr Ser Ser Asp Ala Tyr Tyr Met Asp Tyr
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Phe Asn Leu

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Gln Ser Ile Gly Ser Tyr
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Glu Ala Ser
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Gln Gln Gly Gly Ile Ser Thr Asn Val Gln Asn Ala
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Gly Phe Thr Phe Ser Ser His Ala
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Ile Tyr Asp Asp Gly Thr Thr
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Leu Arg Gly Tyr Asn Ser Gly Phe Asn Phe
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Glu Ser Val Tyr Asn Asn Asn Phe
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Leu Ala Ser
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Ala Gly Gly Tyr Asp Asp Asn Val Tyr Gly
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Gly Phe Ser Phe Ser Asn Asn Ala
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Ile Tyr Asp Gly Ser Ser Gly Ser Thr
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Ala Arg Ala Tyr Gly Gly Tyr Thr Val Tyr Asp Tyr Ala Phe Asn Leu
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Gln Ser Ile Gly Ser Asp
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Tyr Thr Thr
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<400> 2044

Gln Tyr Gly Val Arg Ser Thr Tyr Ser
1 5

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Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

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Ile Asp Thr Asp Gly Ser Ala
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Ala Gly Asp Ser Tyr Gly Tyr Ala Gly Phe Val Tyr Phe Asn Leu
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Gln Asn Ile Tyr Ser Ser
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Asp Ala Ser
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Gln Cys Ser Tyr Tyr Gly Val Asp Tyr Val Gly Gly
1 5 10

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Gly Ile Asp Leu Ser Arg Trp Thr
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Ile Tyr Ala Ser Asp Asp Thr
1 5

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Val Arg Val Tyr Gly Ser Thr Ser Gly Tyr Tyr Asp Leu
1 5 10

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Gln Ser Ile Ser Asn Trp
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Tyr Ala Ser
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Gln Asn Phe Gly Asp Gly Asn Ser Ile Gly His Ala
1   5   10

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Gly Phe Ser Leu Ser Asn Tyr Tyr
1   5

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Ile Asp Lys Ser Gly Ser Ala
1   5

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Ala Arg Gly Tyr Gly Gly Tyr Ala Asp His Gly Leu Gly Leu
1   5   10

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Gln Ser Ile Ala Gly Trp
1   5

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Gln Ala Ser
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Gln Cys Thr Tyr Gly Ser Gly Ser Gly Ser Asn Gly
1   5   10

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Gly Ile Asp Leu Ser Ile Asn Val
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Ile Ser Ser His Gly Asp Thr
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Ala Arg Tyr Val Gly Asp Gly Tyr Tyr Asp Leu
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Gln Ser Ile Ser Asn Leu
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Asp Thr Ser
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Gln Gln Ser Tyr Ser Ser Ser Asn Ile Ala Asn Leu
1 5 10

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Gly Phe Ser Leu Arg His Tyr Ala
1 5

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Ile Thr Thr Thr Ala Asn Thr
1 5

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Ala Arg Ala Met Gly Leu Tyr Asp Ser Tyr Val Asp Val Asp Asp Thr
1 5 10 15

His Asp Ala Phe Asp Pro
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<400> 2072

Gln Ser Val Tyr Asn Ser His Val
1 5

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<400> 2073

Asp Ala Ser
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Leu Gly Gly Tyr Asp Asp Asp Ala Asp Asn Ile Phe Ala
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Gly Phe Ser Phe Ser Ser Gly Tyr Asp
1   5

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Ile Asp Thr Gly Thr Gly Thr Ile
1 5

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<400> 2077

Ala Arg Ser Val Gly Gly Tyr Asp Tyr Ala Ile Asp Leu
1 5 10

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<400> 2078

Gln Asn Ile Gly Ser Arg
1 5

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Tyr Ala Ser
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Gln Gln Thr Tyr Ser Tyr Ser Asp Val Asp Asp Thr
1 5 10

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Gly Ile Asp Leu Ser Ser Tyr Ala
1 5

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Ile Ser Tyr Asp Gly Ser Thr
1 5

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Ala Arg Val Asp Tyr Gly Asp Tyr Asn Phe Ala Leu
1 5 10

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<400> 2084

Glu Ser Ile Ser Asn Tyr
1 5

<210> 2085
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<400> 2085

Ala Ala Ser
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<400> 2086

Gln Cys Thr Tyr Tyr Val Ser Ser Tyr Phe Ala
1 5 10

<210> 2087
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Ala Phe Ser Leu Asn His Tyr Asn
1 5

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Ile Leu Thr Asp Gly Thr Glu
1 5

<210> 2089
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Ala Arg Glu Gly Asp Trp Gly Val Asp Ser Leu
1 5 10

<210> 2090
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Gln Ser Val Asp Asn Asn Asp Phe
1 5

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Leu Ala Ser
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Lys Gly Leu Tyr Phe Asp Ser Gly Trp Tyr Ala Ala
1 5 10

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Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

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Ile Tyr Val Ser Gly Thr Thr
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Ala Arg Asp Ile Tyr Val Asp Glu Ile Gly Cys Phe Asp Leu
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Gln Asn Ile Arg Thr Tyr
1   5

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Arg Ala Ser
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Gln Asn Tyr Asp Gly Gly Ser Ser Thr Gly
1   5   10

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Gly Ile Asp Leu Ser Ser Ala Asp
1   5

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Ile Asn Asn Val Gly Ser Ala
1 5

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Val Arg Gly Tyr Trp Leu Asp Leu
1 5

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Val Asn Val Tyr Asn Asn Asn Tyr
1 5

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Ala Ala Ser
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<210> 2104
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<212> PRT
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<220>
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<400> 2104

Val Gly Tyr Tyr Ser Ser Thr Asp Asp Asn Gly
1 5 10

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<400> 2105

Gly Phe Thr Leu Ser Ser Tyr Tyr
1 5

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Ile Tyr Pro Ser Gly Ser Ala
1 5

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<400> 2107

Ala Arg Ser Thr Thr Ser Ser Leu Tyr Tyr Gly Tyr Asn Leu
1 5 10

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<400> 2108

Ala Ser Ile Thr Asn Trp
1 5

<210> 2109
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Lys Ala Ser
1

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Gln Ser Asn Tyr Gly Gly Gly Ser Asp Thr Ser His Thr
1 5 10

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<220>
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Gly Ile Asp Leu Asn Ile Cys Gly
1 5

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Ile Tyr Pro Ser Asp Tyr Thr
1 5

<210> 2113
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<400> 2113

Ala Arg Gly Leu Gly His Ala Trp Ser His Phe Asp Leu
1 5 10

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<223> LCDR1

<400> 2114

Gln Ser Ile Gly Ser Asp
1 5

<210> 2115
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Ser Val Ser
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Gln Ser Tyr Tyr Gly Thr Ile Thr Thr Gly Tyr Ile Ala
1 5 10

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Gly Phe Ser Leu Asn Ser Tyr Asp
1 5

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Ile Ser Ala Ser Gly Ser Ile
1   5

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Ala Ser Asp Ser Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu
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Glu Asp Val Gly Ser Tyr
1   5

<210> 2121
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Asp Ala Ser
1

<210> 2122
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<400> 2122

Gln Ser Ala Trp Leu Gly Thr Asn Thr Asp Lys Met Ala
1   5   10

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Gly Phe Asp Leu Ser Ser Tyr Ala
1   5

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Ile Tyr Gly Ser Gly Ser Thr
1 5

<210> 2125
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Ala Arg Gly Leu Val Ala Ser Thr Asp Asn Tyr Asn Leu
1 5 10

<210> 2126
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Gln Ser Val Tyr Asn Asn Asn Tyr
1 5

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Leu Ala Ser
1

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<400> 2128

Leu Gly Asp Val Gly Gly Gly Glu Arg Val
1 5 10

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<400> 2129

Gly Phe Ser Leu Ser Asn Tyr His
1 5

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<400> 2130

Ile Thr Thr Ala Asp Glu Thr Thr
1 5

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Gly Arg Thr Ile Arg Tyr Asp Asp Tyr Ala Val Asp Leu
1 5 10

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<400> 2132

Glu Ser Val Gly Gly Tyr
1 5

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<400> 2133

Ala Ala Gly
1

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Gln Cys Thr Tyr Phe Asp Ser Ser Tyr Val Gly
1 5 10

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Gly Phe Ser Leu Ile Lys Ser His
1 5

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Ile Ala Tyr Asp Asp Asn Thr
1 5

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Ala Arg Glu Asp Ser Ser Gly Trp Gly Ser Phe Asn Leu
1 5 10

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<400> 2138

Gln Ser Val Tyr Ala Thr Asn Gln
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Ser Ala Ser
1

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<400> 2140

Gln Gly Ala Tyr Asp Cys Ser Gly Gly Asp Cys Arg Ala
1 5 10

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<400> 2141

Gly Ile Asp Leu Ser Arg Tyr Ala
1 5

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<400> 2142

Ile Asp Asp Asn Asp Ile Thr
1   5

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<400> 2143

Ala Arg Thr Ala Asp Tyr Ala Asp Tyr Ser Phe Gly Leu
1   5   10

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<400> 2144

Glu Asn Ile Gly Asn Tyr
1   5

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<400> 2145

Ala Ala Ser
1

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<400> 2146

Gln Cys Thr Tyr Asp Asp Ser Glu Tyr Phe Val
1   5   10

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<400> 2147

Gly Ile Asp Phe Ser Ser Tyr Trp
1   5

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<400> 2148

Ile Tyr Asn Gly Asp Gly Ser Thr
1 5

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Ala Arg Asp Phe His Leu
1 5

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<400> 2150

Gln Asn Ile Tyr Lys Asn Asn Tyr
1 5

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<400> 2151

Ser Ala Ser
1

<210> 2152
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<400> 2152

Leu Gly Ser Val Ala Cys Ser Gly Pro Asp Cys Ile Val
1   5   10

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<220>
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<400> 2153

Gly Ile Asp Phe Ser Ser Tyr Gly
1   5

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<220>
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<400> 2154

Thr Tyr Pro Asp Tyr Gly Ser Thr
1   5

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<400> 2155

Ala Ser Ser Ser Asn Gly Trp Gly Gly Gly Phe Tyr Phe Asp Leu
1 5 10 15

<210> 2156
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<220>
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<400> 2156

Glu Asp Ile Tyr Ser Asn
1 5

<210> 2157
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<220>
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<400> 2157

Gly Ala Ser
1

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<213> Artificial Sequence

<220>
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<400> 2158

Leu Gly Val Tyr Thr Tyr Ile Thr Thr Asp Pro Asn Ala
1 5 10

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<220>
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<400> 2159

Gly Ile Asp Phe Asn Asn Tyr Tyr
1 5

<210> 2160
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<220>
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<400> 2160

Ile Tyr Thr Gly Ser Gly Ser Thr
1 5

<210> 2161
<211> 24
<212> PRT
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<220>
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<400> 2161

Ala Arg Pro Glu Phe Tyr Asp Thr Tyr Gly Tyr Ala Gly Tyr Gly Tyr
1 5 10 15

Ala Thr Pro Asn Tyr Phe Asn Phe
20

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<220>
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<400> 2162

Gln Ser Val Tyr Asn Asn Asn Leu
1   5

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<400> 2163

Asp Ala Ser
1

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<220>
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<400> 2164

Leu Gly Gly Tyr Asp Asp Asp Ala Asp Tyr Asn Ala
1   5   10

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<220>
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<400> 2165

Gly Phe Ser Leu Ser Ser Ser Thr
1 5

<210> 2166
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<220>
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<400> 2166

Ile Tyr Thr Asp Gly Asp Thr
1 5

<210> 2167
<211> 12
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<220>
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<400> 2167

Ala Arg Arg Ala Asn Gly Tyr Asp Asp Phe Asp Pro
1 5 10

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<220>
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<400> 2168

Glu Ser Ile Ser Ser Tyr
1 5

<210> 2169
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<220>
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<400> 2169

Tyr Glu Ser
1

<210> 2170
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<400> 2170

Gln Gln Gly Phe Ser Tyr Ile Asn Val Asp Asn Thr
1 5 10

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<220>
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<400> 2171

Gly Phe Ser Leu Asn Met Phe Tyr
1 5

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<220>

<223> HCDR2

<400> 2172

Ile Asp Ser Met Gly Ser Ala
1 5

<210> 2173
<211> 12
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<220>
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<400> 2173

Ala Arg Ala Ile Asn Gly Asp Gly Ala Gly Asp Leu
1 5 10

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<220>
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<400> 2174

Glu Lys Ile Asp Ser Phe
1 5

<210> 2175
<211> 3
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<220>
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<400> 2175

Gly Ala Ser
1

<210> 2176
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<220>
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<400> 2176

Gln Ser Thr Ala Asp Gly Ser Asp Tyr Val Gly Thr
1   5   10

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<220>
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<400> 2177

Gly Ile Asp Leu Ser Ser Asn Ala
1   5

<210> 2178
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<220>
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<400> 2178

Ile Phe Pro Gly Asp Asn Ile
1   5

<210> 2179
<211> 11
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<220>
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<400> 2179

Ala Arg Tyr His Ala Asp Asp Ser Val Asp Leu
1   5   10

<210> 2180
<211> 6
<212> PRT
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<220>
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<400> 2180

Gln Ser Ile Asn Gly Trp
1   5

<210> 2181
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<220>
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<400> 2181

Arg Ala Ser
1

<210> 2182
<211> 12
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<213> Artificial Sequence

<220>
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<400> 2182

His Leu Gly Asp Ile Tyr Ser Asn Ile Asp Tyr Val
1   5   10

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<213> Artificial Sequence

<220>
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<400> 2183

Gly Phe Ser Leu Asn Ser Tyr Asp
1   5

<210> 2184
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<220>
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<400> 2184

Ile Ser Ala Ile Asp Asn Thr
1   5

<210> 2185
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<220>
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<400> 2185

Ala Ser Asp Ser Tyr Gly Trp Ala Tyr Val Tyr Tyr Phe Asn Leu
1   5   10   15

<210> 2186
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<400> 2186

Glu Asp Ile Gly Ser Tyr
1 5

<210> 2187
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<400> 2187

Asp Ala Ser
1

<210> 2188
<211> 13
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<400> 2188

Gln Ser Ala Trp Tyr Ser Ser Asp Ser Asp Lys Met Ala
1 5 10

<210> 2189
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<212> PRT
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<220>
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<400> 2189

Gly Phe Ser Leu Ser Thr Tyr Gly
1 5

<210> 2190
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<220>
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<400> 2190

Ile Asp Gly Gly Asp Ser Pro
1 5

<210> 2191
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<213> Artificial Sequence

<220>
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<400> 2191

Ala Arg Ile Ala Gly Ser Asn His Gly Pro Phe Asp Leu
1 5 10

<210> 2192
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<220>
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<400> 2192

Glu Phe Ile Ser Asn Tyr
1 5

<210> 2193
<211> 3
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<400> 2193

Gly Ala Ser
1

<210> 2194
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<400> 2194

Gln Cys Thr Ala Tyr Gly Ser Ser Tyr Val Gly
1 5 10

<210> 2195
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<220>
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<400> 2195

Gly Phe Ser Leu Ser Ser Tyr Ala
1 5

<210> 2196
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<223> HCDR2

<400> 2196

Ile Asn Ser Tyr Ala Thr Thr
1 5

<210> 2197
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<212> PRT
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<220>
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<400> 2197

Ala Arg Glu Ala Gly Tyr Ala Asp Leu
1 5

<210> 2198
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<220>
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<400> 2198

Gln Ser Ile Ser Arg Tyr
1 5

<210> 2199
<211> 3
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<220>
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<400> 2199

Glu Ala Ser
1

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<211> 12
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<220>
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<400> 2200

Gln Gln Asp Tyr Asp Ser Thr Asp Val Gly Asn Thr
1   5   10

<210> 2201
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 2201

Gly Phe Ser Phe Ser Ser Gly Tyr Tyr
1   5

<210> 2202
<211> 8
<212> PRT
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<220>
<223> HCDR2

<400> 2202

Ile Tyr Ser Gly Ser Asp Ser Ala
1   5

<210> 2203
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2203

Val Arg Asp Leu Gly Asp Tyr Asn Ala Leu Ser Tyr Thr Ile Asn Leu
1   5   10   15

<210> 2204
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2204

Gln Ser Ile Ser Thr Asn
1   5

<210> 2205
<211> 3
<212> PRT
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<220>
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<400> 2205

Arg Ala Ser
1

<210> 2206
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 2206

Gln Cys Ile Asp Tyr Asp Asp Tyr Gly Gly Thr
1 5 10

<210> 2207
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2207

Gly Phe Ser Leu Ser Asp Tyr Tyr
1 5

<210> 2208
<211> 7
<212> PRT
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<220>
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<400> 2208

Met Asn Ser Gly Gly Asn Ala
1 5

<210> 2209
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 2209

Val Arg Asp Leu Ser Arg Phe Ser Leu
1 5

<210> 2210
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<220>
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<400> 2210

Pro Ser Val Tyr Ser Asp Tyr
1 5

<210> 2211
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<220>
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<400> 2211

Trp Ala Ser
1

<210> 2212
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<220>
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<400> 2212

Ala Gly Gly Tyr Ser Gly Asn Ser Asp Val Trp Ala
1 5 10

<210> 2213
<211> 9
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<213> Artificial Sequence

<220>
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<400> 2213

Gly Phe Ser Phe Asp Ile Asp Tyr Tyr
1 5

<210> 2214
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<212> PRT
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<220>
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<400> 2214

Ile Tyr Ala Gly Ser Ser Gly Ser Thr
1 5

<210> 2215
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2215

Ala Arg His Tyr Ala Gly Tyr Ala Gly Asp Ala Tyr Ala Thr Asp Tyr
1 5 10 15

Tyr Phe Asn Leu
20

<210> 2216
<211> 6
<212> PRT
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<220>
<223> LCDR1

<400> 2216

Gln Ser Val Ser Asn Phe
1 5

<210> 2217
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<212> PRT
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<220>
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<400> 2217

Gly Ala Ser
1

<210> 2218
<211> 8
<212> PRT
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<220>
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<400> 2218

Gln Ser Gly Tyr Tyr Ser Ala Thr
1 5

<210> 2219
<211> 9
<212> PRT
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<220>
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<400> 2219

Gly Phe Asp Leu Ser Ser Tyr Tyr Tyr
1 5

<210> 2220
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<212> PRT
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<220>
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<400> 2220

Phe Tyr Thr Asp Asp Ser Ala Asn Thr
1   5

<210> 2221
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<212> PRT
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<220>
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<400> 2221

Ala Arg Asp Ala Ser Gly Trp Tyr Trp Phe Asn Leu
1   5   10

<210> 2222
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<220>
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<400> 2222

Gln Ser Leu His Asp Asp Asn Ala
1   5

<210> 2223
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<220>
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<400> 2223

Leu Ala Ser
1

<210> 2224
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<212> PRT
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<220>
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<400> 2224

Gln Gly Ala Tyr Ser Gly Asp Asn Asn Ser
1 5 10

<210> 2225
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<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2225

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

Val Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Val Ile Trp Asn Asn Gly Ala Thr His Tyr Ala Thr Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Ala Ser Thr Thr Val Asp Leu Lys Val Thr
65 70 75 80

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Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Ala
                85                  90                  95


Asn Asp Ala Trp Ser Thr Tyr Ser Asp Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  2226
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<212>  PRT
<213>  Artificial Sequence

<220>
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<400>  2226

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Thr Ile Thr Asn Tyr
            20                  25                  30


Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Lys Ala Ser Thr Leu Thr Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Asn Tyr Tyr Tyr Gly Ser Ser
                85                  90                  95
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Ser Gly Tyr Gly Phe Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 2227
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2227

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Tyr Tyr Ala
20 25 30

Val Thr Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Val Ile Tyr Asp Asn Gly Ala Thr Ala Phe Ala Thr Trp Ala Lys Gly
50 55 60

Arg Phe Thr Met Ser Lys Asn Ser Thr Thr Val Ala Leu Lys Val Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Ala
85 90 95

Asn Asn Ala Trp Ser Thr Tyr Ser Asn Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 2228
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2228

Asp Ile Val Met Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Ser Ser Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Leu Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Ser Gly Ser Ile
85 90 95

Ser Gly Tyr Gly Phe Val Phe Gly Gly Gly Thr Gly Val Val Val Lys
100 105 110

<210> 2229
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2229

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

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Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Thr Ile Ser Ser Tyr His
            20                  25                  30

Met Ile Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Ile Gly
        35                  40                  45

Asp Ile Tyr Gly Gly Thr Ala Thr Thr Asp Tyr Ala Ser Trp Ala Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Met
65                  70                  75                  80

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ala
                85                  90                  95

Arg Tyr Ser Gly Gly Ser Tyr Ala Asn Tyr Val Phe Asn Leu Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 2230
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<212> PRT
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<220>
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<400> 2230

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Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
            20                  25                  30
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Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Arg Thr Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Asp Trp Ser Ser Ser
85 90 95

Asn Arg Tyr Asp Asn Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 2231
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2231

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Arg Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Val Ile Ser Ser Ser Gly Gly Thr Asn Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Gly
85 90 95

Asp Tyr Trp Asp Phe Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 2232
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2232

Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asn Leu
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Phe Pro Gly Leu Asp
85 90 95

Thr Val Ala Ala Phe Gly Gly Gly Thr Glu Ala Val Val Thr
100 105 110

<210> 2233
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2233

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Thr Ile Ser Asp Phe His
20 25 30

Val Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Ile Thr Ser Ala Ser Thr Thr Ala Tyr Ala Thr Trp Ala Arg
50 55 60

Gly Arg Phe Thr Ile Ser Lys Ser Ser Thr Thr Val Asn Leu Lys Ile
65 70 75 80

Val Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser
85 90 95

Thr Tyr Thr Asp Thr Ser Gly Tyr Tyr Phe Asp Phe Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 2234
<211> 113

<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2234

Ala Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Ile Ile Asn Cys Gln Ser Ser Gln Ser Ile Tyr Asn Gly
20 25 30

Asn Arg Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
35 40 45

Leu Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe
50 55 60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Ala Ile Ser Asp Val
65 70 75 80

Gln Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Ser Tyr Asp Cys
85 90 95

Asp Ser Ala Asp Cys Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val
100 105 110

Glu

<210> 2235
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2235

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Tyr Ala
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Ile Ile Ser Thr Ser Gly Ile Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Met Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Leu Asn
85 90 95

Gly Phe Asp Asp Tyr Val Arg Tyr Phe Asp Phe Trp Gly Leu Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 2236
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2236

Ala Ile Glu Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Ile Ala Ser Asn
            20   25   30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35   40   45

Tyr Ala Ala Ser Tyr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50   55   60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Gln Ser
65   70   75   80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Ala Phe Tyr Val Ser Ser
                85   90   95

Ser Asp Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 2237
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2237

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1   5   10   15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Asp
            20   25   30

Val Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
        35   40   45

Phe Ile Gly Ser Asp Gly Ser Ala His Tyr Ala Thr Trp Val Lys Gly
    50   55   60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Trp
                85                  90                  95


Asn Asp Tyr Trp Ala His Asp Leu Trp Gly Pro Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115


<210>  2238
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  2238

Ala Gln Val Leu Thr Gln Thr Thr Ser Pro Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ile Val Thr Ser Lys
            20                  25                  30


Ser Ala Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Arg Leu
        35                  40                  45


Leu Ile Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60


Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80
```

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Tyr Asn
85 90 95

Ser Gly Asp Leu Asn Pro Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 2239
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2239

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Ser Tyr Asp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Tyr Ile Ser Ser Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Ser
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Glu Gly
85 90 95

Asp Tyr Trp Asp Phe Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 2240
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2240

```
Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Ser Asn Leu
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Arg Leu Leu Ile
        35                  40                  45


Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80


Glu Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Phe Pro Gly Leu Asp
                85                  90                  95


Thr Gly Ala Thr Phe Gly Gly Gly Thr Glu Ala Val Val Thr
            100                 105                 110
```

<210> 2241
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2241

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Asn Asp Tyr Trp
20 25 30

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Asp Val Gly Gly Ser Leu Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
85 90 95

Leu Thr Tyr Gly Phe Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 2242
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2242

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Ser Ser Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Arg Pro Lys Arg Leu Ile
35 40 45

Tyr Gly Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Ala
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Ala Leu Thr Ile Ser Asp Leu Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys His Tyr Tyr Ala Thr Ile Ser Gly
85 90 95

Leu Gly Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 2243
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2243

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Thr Tyr Ala
20 25 30

Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Val Val Tyr Asp Asn Gly Tyr Ile Ser His Ala Thr Trp Val Lys Gly
50 55 60

```
Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Gly Leu Glu Ile Thr
65                  70                  75                  80


Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Ser Ala
                85                  90                  95


Asp Gly Ser Trp Ser Thr Tyr Phe Asn Leu Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ser
        115


<210>  2244
<211>  112
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL

<400>  2244

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Ser Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Ser
65                  70                  75                  80
```

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Thr Asn Tyr Cys Cys Ser Ser
85 90 95

Ser Asp Asn Gly Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 2245
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2245

Gln Ser Leu Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr His
20 25 30

Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Tyr Ile Ala Tyr Gly Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Tyr
85 90 95

Ser Glu Asp Ser Tyr Trp Gly Leu Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 2246
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2246

```
Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Ala Ala Val Gly
1               5                   10                  15


Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Glu Asn Tyr
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Thr Ser Lys Leu Thr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Gly Val Gln Ser
65                  70                  75                  80


Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Gly Ile Ile Phe
                85                  90                  95


Val Asp Asn Ile Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100                 105                 110
```

<210> 2247
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> VH

<400> 2247

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asp Tyr Tyr
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Ile Met Ser Gly Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Leu Glu Leu Lys Ile
65 70 75 80

Thr Ser Pro Thr Thr Glu Asp Thr Ala Ile Tyr Phe Cys Ala Arg Asp
85 90 95

Gly Asp Tyr Ala Gly Trp Gly Tyr Ala Thr Gly Ala Phe Asp Pro Trp
100 105 110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 2248
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> VL

<400> 2248

Ala Ala Val Leu Thr Gln Thr Pro Ser Pro Val Ser Ala Ala Val Gly
1 5 10 15

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Gly Thr Val Thr Ile Ser Cys Gln Ala Ser Gln Ser Val Val Gly Asn
            20   25   30

Ser Leu Leu Ser Trp Phe Gln Lys Lys Pro Gly Gln Pro Pro Lys Leu
        35   40   45

Leu Ile Tyr Ser Ala Ser Ser Leu Ala Ser Gly Val Pro Ser Arg Phe
    50   55   60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65   70   75   80

Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Thr Gly Arg Tyr Asn Ser
                85   90   95

Asp Thr Asp Thr Phe Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
            100   105   110

<210> 2249
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2249

Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

<210> 2250
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2250

Ile Trp Asn Asn Gly Ala Thr
1 5

<210> 2251
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2251

Ala Arg Ser Ala Asn Asp Ala Trp Ser Thr Tyr Ser Asp Leu
1 5 10

<210> 2252
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2252

Gln Thr Ile Thr Asn Tyr
1 5

<210> 2253
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2253

Lys Ala Ser
1

<210> 2254
<211> 14

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2254

Gln Asn Tyr Tyr Tyr Gly Ser Ser Ser Gly Tyr Gly Phe Val
1   5   10

<210> 2255
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2255

Gly Phe Ser Leu Thr Tyr Tyr Ala
1   5

<210> 2256
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2256

Ile Tyr Asp Asn Gly Ala Thr
1   5

<210> 2257
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2257

Ala Arg Ser Ala Asn Asn Ala Trp Ser Thr Tyr Ser Asn Leu
1 5 10

<210> 2258
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2258

Glu Asp Ile Ser Ser Tyr
1 5

<210> 2259
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2259

Lys Ala Ser
1

<210> 2260
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2260

Gln Ser Tyr Tyr Ser Gly Ser Ile Ser Gly Tyr Gly Phe Val
1 5 10

<210> 2261
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2261

Gly Phe Thr Ile Ser Ser Tyr His
1 5

<210> 2262
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2262

Ile Tyr Gly Gly Thr Ala Thr Thr
1 5

<210> 2263
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2263

Ala Arg Ala Arg Tyr Ser Gly Gly Ser Tyr Ala Asn Tyr Val Phe Asn
1 5 10 15

Leu

<210> 2264
<211> 6

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2264

Gln Ser Ile Ser Ser Tyr
1   5

<210> 2265
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2265

Arg Thr Ser
1

<210> 2266
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2266

Gln Gly Tyr Asp Trp Ser Ser Ser Asn Arg Tyr Asp Asn Thr
1   5   10

<210> 2267
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2267

Gly Phe Ser Leu Ser Arg Tyr Asp
1 5

<210> 2268
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2268

Ile Ser Ser Ser Gly Gly Thr
1 5

<210> 2269
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2269

Ala Arg Glu Gly Asp Tyr Trp Asp Phe Asn Leu
1 5 10

<210> 2270
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2270

Gln Ser Ile Ser Asn Leu
1 5

<210> 2271
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2271

Gly Ala Ser
1

<210> 2272
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2272

Ala Gly Gly Phe Pro Gly Leu Asp Thr Val Ala Ala
1 5 10

<210> 2273
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2273

Gly Phe Thr Ile Ser Asp Phe His
1 5

<210> 2274
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> HCDR2

<400> 2274

Ile Ile Thr Ser Ala Ser Thr Thr
1 5

<210> 2275
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2275

Ala Arg Ser Thr Tyr Thr Asp Thr Ser Gly Tyr Tyr Phe Asp Phe
1 5 10 15

<210> 2276
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2276

Gln Ser Ile Tyr Asn Gly Asn Arg
1 5

<210> 2277
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2277

Ser Ala Ser
1

<210> 2278
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2278

Leu Gly Ser Tyr Asp Cys Asp Ser Ala Asp Cys Phe Ala
1   5   10

<210> 2279
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2279

Gly Phe Ser Leu Ser Ser Tyr Ala
1   5

<210> 2280
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2280

Ile Ser Thr Ser Gly Ile Thr
1   5

<210> 2281
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2281

Ala Arg Leu Asn Gly Phe Asp Asp Tyr Val Arg Tyr Phe Asp Phe
1   5   10   15

<210> 2282
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2282

Glu Ser Ile Ala Ser Asn
1   5

<210> 2283
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2283

Ala Ala Ser
1

<210> 2284
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2284

Gln Ser Ala Phe Tyr Val Ser Ser Ser Asp Asn Ala
1 5 10

<210> 2285
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2285

Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

<210> 2286
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2286

Ile Gly Ser Asp Gly Ser Ala
1 5

<210> 2287
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2287

Ala Arg Asp Trp Asn Asp Tyr Trp Ala His Asp Leu
1 5 10

<210> 2288
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2288

Gln Ile Val Thr Ser Lys Ser Ala
1 5

<210> 2289
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2289

Lys Ala Ser
1

<210> 2290
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2290

Ala Gly Gly Tyr Tyr Asn Ser Gly Asp Leu Asn Pro
1 5 10

<210> 2291
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2291

Gly Phe Ser Leu Ser Ser Tyr Asp
1 5

<210> 2292
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2292

Ile Ser Ser Ser Gly Asn Thr
1 5

<210> 2293
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2293

Ala Arg Glu Gly Asp Tyr Trp Asp Phe Asn Leu
1 5 10

<210> 2294
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2294

Gln Ser Ile Ser Asn Leu
1 5

<210> 2295
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2295

Arg Ala Ser
1

<210> 2296
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2296

Ala Gly Gly Phe Pro Gly Leu Asp Thr Gly Ala Thr
1 5 10

<210> 2297
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2297

Gly Phe Ser Leu Asn Asp Tyr Trp
1 5

<210> 2298
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> HCDR2

<400> 2298

Ile Asp Val Gly Gly Ser Leu
1   5

<210> 2299
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2299

Ala Arg Gly Gly Leu Thr Tyr Gly Phe Asp Leu
1   5   10

<210> 2300
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2300

Glu Asp Ile Ser Ser Tyr
1   5

<210> 2301
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2301

Gly Ala Ser
1

<210> 2302
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 2302

His Tyr Tyr Ala Thr Ile Ser Gly Leu Gly Val Ala
1   5   10

<210> 2303
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 2303

Gly Phe Ser Leu Ser Thr Tyr Ala
1   5

<210> 2304
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 2304

Val Tyr Asp Asn Gly Tyr Ile
1   5

<210> 2305
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 2305

Ala Arg Ser Ala Asp Gly Ser Trp Ser Thr Tyr Phe Asn Leu
1   5   10

<210> 2306
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 2306

Glu Ser Ile Ser Asn Tyr
1   5

<210> 2307
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 2307

Lys Ala Ser
1

<210> 2308
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
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Gln Thr Asn Tyr Cys Cys Ser Ser Ser Asp Asn Gly Phe Ala
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Gly Ile Asp Leu Ser Ser Tyr His
1 5

<210> 2310
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Ile Ala Tyr Gly Gly Asn Thr
1 5

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Ala Arg Gly Tyr Ser Glu Asp Ser Tyr Trp Gly Leu
1 5 10

<210> 2312
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Gln Asn Ile Glu Asn Tyr
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<210> 2313
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Asp Thr Ser
1

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Gln Gln Asp Tyr Gly Ile Ile Phe Val Asp Asn Ile
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Gly Phe Ser Leu Ser Asp Tyr Tyr
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<210> 2316
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Met Ser Gly Ser Gly Ser Thr
1 5

<210> 2317
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Ala Arg Asp Gly Asp Tyr Ala Gly Trp Gly Tyr Ala Thr Gly Ala Phe
1 5 10 15

Asp Pro

<210> 2318
<211> 8
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<220>
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<400> 2318

Gln Ser Val Val Gly Asn Ser Leu
1 5

<210> 2319
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<400> 2319

Ser Ala Ser
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<210> 2320
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<400> 2320

Thr Gly Arg Tyr Asn Ser Asp Thr Asp Thr Phe Val
1 5 10

<210> 2321
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<400> 2321

Met Gly Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
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Val Leu Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Asp Leu Val Lys
20 25 30

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Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe
        35                  40                  45

Thr Glu Tyr Ile Met His Trp Val Lys Gln Ser His Gly Lys Ser Leu
    50                  55                  60

Glu Trp Ile Gly Gly Ile Ile Pro Asn Asn Gly Gly Thr Ser Tyr Asn
65                  70                  75                  80

Gln Lys Phe Lys Asp Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser
                85                  90                  95

Thr Gly Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val
            100                 105                 110

Tyr Tyr Cys Thr Arg Arg Glu Val Tyr Gly Arg Asn Tyr Tyr Ala Leu
        115                 120                 125

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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<400> 2322

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1               5                   10                  15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
            20                  25                  30
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Ala Ser Leu Gly Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Gly
        35   40   45

Ile Asn Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val
    50   55   60

Lys Leu Leu Ile Tyr Tyr Thr Ser Ser Leu His Ser Gly Val Pro Ser
65   70   75   80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser
                85   90   95

Asn Leu Glu Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser
            100   105   110

Asn Leu Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
        115   120   125

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<220>
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<400> 2323

Gly Tyr Thr Phe Thr Glu Tyr Ile
1   5

<210> 2324
<211> 8
<212> PRT
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<220>
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<400> 2324

Ile Ile Pro Asn Asn Gly Gly Thr
1 5

<210> 2325
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<220>
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<400> 2325

Thr Arg Arg Glu Val Tyr Gly Arg Asn Tyr Tyr Ala Leu Asp Tyr
1 5 10 15

<210> 2326
<211> 6
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<400> 2326

Gln Gly Ile Asn Asn Tyr
1 5

<210> 2327
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Tyr Thr Ser
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<210> 2328
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<212> PRT
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Gln Gln Tyr Ser Asn Leu Pro Tyr Thr
1 5