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SEQUENCE LISTING

<110> ABLYNX NV

<120> IMPROVED TNF BINDERS

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<150> US62/254375
<151> 2015-11-12

<160> 105

<170> PatentIn version 3.5

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<400> 1

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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

```
Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
            100                 105                 110


Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  2
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<400>  2

Thr Ala Asp Met Gly
1               5


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<220>
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<400>  3

Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val Lys
1               5                   10                  15


Gly



<210>  4
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<400> 4

Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr
1 5 10

<210> 5
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<220>
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<400> 5

Gly Phe Thr Phe Ser Thr Ala Asp Met Gly
1 5 10

<210> 6
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<220>
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<400> 6

Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr
1 5 10

<210> 7
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<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 7

Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr
1 5 10

<210> 8
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<220>
<223> CDR Sequence

<400> 8

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 9
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<220>
<223> CDR Sequence

<400> 9

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 10
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<213> Artificial Sequence

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<223> CDR Sequence

<400> 10

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

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```
1               5                   10                  15

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60

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

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

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

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

<210> 11
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<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 11

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

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

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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


Gln Gly Thr Leu Val Thr Val Lys Ser
        115                 120


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

<220>
<223>  CDR Sequence

<400>  12

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
```

50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val Gln Ser
115 120

<210> 13
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 13

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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


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


Gln Gly Thr Leu Val Lys Val Ser Ser
        115                 120


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

<220>
<223>  CDR Sequence

<400>  14

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
```

100 105 110

Gln Gly Thr Leu Val Gln Val Ser Ser
115 120

<210> 15
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 15

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val Lys Ser
115 120

<210> 16
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 16

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 17
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 17

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 18
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 18

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

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1 5 10 15

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

Gln Gly Thr Leu Val Lys Val Ser Ser
115 120

<210> 19
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 19

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

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

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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

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

<220>
<223> CDR Sequence

<400> 20

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
```

50 55 60

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

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

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

Gln Gly Thr Leu Val Thr Val Lys Ser
115 120

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

<220>
<223> CDR Sequence

<400> 21

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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


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


Gln Gly Thr Leu Val Thr Val Gln Ser
        115                 120


<210>  22
<211>  122
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  22

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
```

100 105 110

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

<210> 23
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 23

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

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

<210> 24
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 24

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 25
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 25

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 26
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 26

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

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1 5 10 15

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

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

<210> 27
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 27

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

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

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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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


<210>  28
<211>  122
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  28

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
```

50 55 60

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

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

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

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

<210> 29
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 29

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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


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


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


<210>  30
<211>  122
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  30

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
```

100 105 110

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

<210> 31
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 31

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

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

<210> 32
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 32

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 33
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 33

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

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

<220>
<223> CDR Sequence

<400> 34

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

1 5 10 15

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

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

<210> 35
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 35

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

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

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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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


<210>  36
<211>  122
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  36

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


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


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


Ala Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
```

50 55 60

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

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

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

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

<210> 37
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 37

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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


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


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


<210>  38
<211>  122
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  38

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
```

100 105 110

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

<210> 39
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 39

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

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

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

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

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

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

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

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

<210> 40
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 40

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


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


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


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


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


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


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


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

<210> 41
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 41

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


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

<210> 42
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> HIS6-FLAG3 tag

<400> 42

```
His His His His His His Gly Ala Ala Asp Tyr Lys Asp His Asp Gly
```

eolf-seql (5)

1 5 10 15

Asp Tyr Lys Asp His Asp Ile Asp Tyr Lys Asp Asp Asp Asp Lys Gly
20 25 30

Ala Ala

<210> 43
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 43

Val Thr Val Lys Ser
1 5

<210> 44
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 44

Val Thr Val Gln Ser
1 5

<210> 45
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 45

Val Lys Val Ser Ser
1 5

<210> 46
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 46

Val Gln Val Ser Ser
1 5

<210> 47
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<220>
<221> SITE
<222> (6)..(6)
<223> Xaa stands for (X)n which means C-terminal extension with n amino acids, wherein each position is chosen independently from any amino acids

<400> 47

Val Thr Val Lys Ser Xaa
1 5

<210> 48
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<220>
<221> SITE
<222> (6)..(6)
<223> Xaa stands for (X)n which means C-terminal extension with n amino
       acids, wherein each position is chosen independently from any
       amino acids

<400> 48

Val Thr Val Gln Ser Xaa
1   5

<210> 49
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<220>
<221> SITE
<222> (6)..(6)
<223> Xaa stands for (X)n which means C-terminal extension with n amino
       acids, wherein each position is chosen independently from any
       amino acids

<400> 49

Val Lys Val Ser Ser Xaa
1   5

<210> 50
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<220>
<221> SITE

<222> (6)..(6)
<223> Xaa stands for (X)n which means C-terminal extension with n amino acids, wherein each position is chosen independently from any amino acids

<400> 50

Val Gln Val Ser Ser Xaa
1 5

<210> 51
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 51

Val Thr Val Lys Ser Ala
1 5

<210> 52
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 52

Val Thr Val Gln Ser Ala
1 5

<210> 53
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 53

Val Lys Val Ser Ser Ala
1 5

<210> 54
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 54

Val Gln Val Ser Ser Ala
1 5

<210> 55
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 55

Val Thr Val Ser Ser
1 5

<210> 56
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<220>
<221> SITE
<222> (6)..(6)
<223> Xaa stands for (X)n which means C-terminal extension with n amino acids, wherein each position is chosen independently from any amino acids

<400> 56

Val Thr Val Ser Ser Xaa
1   5

<210> 57
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> C-terminal end

<400> 57

Val Thr Val Ser Ser Ala
1   5

<210> 58
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 58

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

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

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Lys Ala Gln Asn Thr Val Tyr

65 70 75 80

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

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

Gln Gly Thr Gln Val Thr Val Ser Ser
115 120

<210> 59
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 59

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

```
Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
            100                 105                 110


Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  60
<211>  121
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  60

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


Gln Gly Thr Leu Val Thr Val Ser Ser
```

115 120

<210> 61
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 61

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

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

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

Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
50 55 60

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

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

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

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

<210> 62
<211> 122
<212> PRT

<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 62

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


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


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


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


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


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


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


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

<210> 63
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 63

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


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


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


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


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


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


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


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


<210>  64
<211>  122
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  64

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


Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Ser Thr Ala
```

20 25 30

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

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

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

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

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

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

<210> 65
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 65

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

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

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

```
Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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


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


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


Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  66
<211>  121
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  66

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


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


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


Ser Arg Ile Ser Gly Ile Asp Gly Thr Thr Tyr Tyr Asp Glu Pro Val
    50                  55                  60


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

65 70 75 80

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 67
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 67

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

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

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

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

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

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

```
Arg Ser Pro Arg Tyr Ala Asp Gln Trp Ser Ala Tyr Asp Tyr Trp Gly
            100                 105                 110


Gln Gly Thr Gln Val Thr Val Ser Ser
        115                 120


<210>  68
<211>  121
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  68

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


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


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


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


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


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


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


Gln Gly Thr Gln Val Thr Val Ser Ser
```

115 120

<210> 69
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 69

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

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

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

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

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

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

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

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

<210> 70
<211> 115
<212> PRT

<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 70

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


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115
```

<210> 71
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 71

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


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
        115


<210>  72
<211>  116
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  72

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


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe
```

20 25 30

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ala
115

<210> 73
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 73

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

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

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

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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ala
        115


<210>  74
<211>  115
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  74

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


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


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


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


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

65 70 75 80

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 75
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 75

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

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

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

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

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

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

```
Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Lys
            100                 105                 110


Val Ser Ser Ala
        115


<210>  76
<211>  115
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  76

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


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser
```

115

<210> 77
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 77

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ala
115

<210> 78
<211> 117
<212> PRT

<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 78

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


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ala Ala
        115
```

<210> 79
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 79

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


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ala Ala Ala
        115


<210>  80
<211>  116
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  80

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


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe
```

20 25 30

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly
115

<210> 81
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 81

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

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

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

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


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


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


Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Gly Gly
        115


<210>  82
<211>  118
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  CDR Sequence

<400>  82

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


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


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


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


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

65 70 75 80

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly
115

<210> 83
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 83

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 84
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 84

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ala

<210> 85
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 85

Gly Gly Gly Gly Ser
1 5

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

<220>
<223> Linker

<400> 86

Ser Gly Gly Ser Gly Gly Ser
1 5

<210> 87
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 87

Gly Gly Gly Gly Cys Gly Gly Gly Ser
1 5

<210> 88
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<223> Linker

<400> 88

Gly Gly Gly Gly Ser Gly Gly Gly Ser
1   5

<210> 89
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 89

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

<210> 90
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 90

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

<210> 91
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 91

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

Gly Ser

<210> 92
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 92

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

Gly Gly Gly Ser
            20

<210> 93
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 93

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

Gly Gly Gly Ser Gly Gly Gly Gly Ser
            20   25

<210> 94
<211> 30
<212> PRT

<213> Artificial Sequence

<220>
<223> Linker

<400> 94

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

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            20   25   30

<210> 95
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 95

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

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            20   25   30

Gly Gly Ser
        35

<210> 96
<211> 40
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 96

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

1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
20 25 30

Gly Gly Ser Gly Gly Gly Gly Ser
35 40

<210> 97
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> G1 Hinge
<400> 97

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
1 5 10 15

<210> 98
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> 9GS-G1 hinge

<400> 98

Gly Gly Gly Gly Ser Gly Gly Gly Ser Glu Pro Lys Ser Cys Asp Lys
1 5 10 15

Thr His Thr Cys Pro Pro Cys Pro
20

<210> 99
<211> 12
<212> PRT
<213> Artificial Sequence

<220>

<223> Llama upper long hinge region

<400> 99

Glu Pro Lys Thr Pro Lys Pro Gln Pro Ala Ala Ala
1 5 10

<210> 100
<211> 62
<212> PRT
<213> Artificial Sequence

<220>
<223> G3 hinge

<400> 100

Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Cys Pro Arg Cys
1 5 10 15

Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro
20 25 30

Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu
35 40 45

Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro
50 55 60

<210> 101
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 101

Ser Phe Gly Met Ser
1 5

<210> 102
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 102

Ser Ile Ser Gly Ser Gly Ser Asp Thr Leu Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 103
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR Sequence

<400> 103

Gly Gly Ser Leu Ser Arg
1 5

<210> 104
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> TNF006C11

<400> 104

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

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

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

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

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

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

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

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

<210> 105
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Tag

<400> 105

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Gly Gly Gly Cys
1
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