SEQUENCE LISTING

<110> TransBio Ltd

<120> FN14-BINDING PROTEINS AND USES THEREOF

<130> 512384

<150> 61/526,599
<151> 2011-08-23

<160> 70

<170> PatentIn version 3.5

<210> 1
<211> 103
<212> PRT
<213> Homo sapiens

<400> 1

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Gly Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp
1               5                   10                  15


Ser Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg
            20                  25                  30


Pro His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro
        35                  40                  45


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


Val Leu Gly Leu Leu Ser Gly Phe Leu Val Trp Arg Arg Cys Arg Arg
65                  70                  75                  80


Arg Glu Lys Phe Thr Thr Pro Ile Glu Glu Thr Gly Gly Glu Gly Cys
                85                  90                  95


Pro Ala Val Ala Leu Ile Gln
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<210> 2
<211> 50
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<220>
<223> amino acid sequence of Fn14 ectodomain

<400> 2

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Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1               5                   10                  15
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Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
            20                  25                  30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
        35                  40                  45

Arg Leu
    50
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<210> 3
<211> 43
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW129

<400> 3

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Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp
1               5                   10                  15

Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe
            20                  25                  30

Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro
        35                  40
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<210> 4
<211> 47
<212> PRT
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<220>
<223> amino acid sequence of Fn14 gene fragment RW131

<400> 4

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

Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser
            20                  25                  30

Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly Cys Ala Ala
        35                  40                  45
```

<210> 5
<211> 52
<212> PRT
<213> artificial

<220>

<223> amino acid sequence of Fn14 gene fragment RW127

<400> 5

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

Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys Cys
            20                  25                  30

Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu
        35                  40                  45

Gly Cys Ala Ala
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<210> 6
<211> 44
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW125

<400> 6

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Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu
1               5                   10                  15

Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp
            20                  25                  30

Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro
        35                  40
```

<210> 7
<211> 46
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW120

<400> 7

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Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu
1               5                   10                  15

Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp
            20                  25                  30

Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Val Asp
        35                  40                  45
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<210> 8
<211> 53
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW118

<400> 8

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

Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys Cys Met Asp Cys
20 25 30

Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly Cys Ala
35 40 45

Ala Ala Pro Pro Ala
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<210> 9
<211> 40
<212> PRT
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<220>
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<400> 9

Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu
1 5 10 15

Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp
20 25 30

Phe Cys Leu Gly Cys Ala Ala Ala
35 40

<210> 10
<211> 73
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW98

<400> 10

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

Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys Cys Met Asp Cys Ala
20 25 30

Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly Cys Ala Ala
35 40 45

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

Leu Ser Leu Thr Phe Val Leu Gly Leu
65 70

<210> 11
<211> 54
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW95

<400> 11

Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys Cys Met Asp Cys
1 5 10 15

Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly Cys Ala
20 25 30

Ala Ala Pro Pro Ala Pro Phe Arg Leu Leu Trp Pro Ile Leu Gly Gly
35 40 45

Ala Leu Ser Leu Thr Phe
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<210> 12
<211> 19
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14 gene fragment RW91

<400> 12

Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe Arg Leu
1 5 10 15

Leu Trp Pro

<210> 13
<211> 119
<212> PRT

<213> artificial

<220>
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<223> X is E or Q

<220>
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<222> (28)..(28)
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<222> (53)..(53)
<223> X is V or L or S

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<223> X is K or Q or R

<220>
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<222> (56)..(57)
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<220>
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<220>
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<220>
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<222> (82)..(82)
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<220>
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<223> X is T or D

<400> 13

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


Ser Met Lys Leu Ser Cys Xaa Ala Ser Gly Phe Xaa Phe Xaa Xaa Tyr
            20                  25                  30


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


Ala Glu Ile Arg Xaa Xaa Ser Xaa Xaa Tyr Xaa Thr His Tyr Ala Glu
    50                  55                  60


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


Xaa Xaa Leu Gln Met Xaa Xaa Leu Arg Xaa Glu Asp Thr Gly Ile Tyr
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85 90 95

Tyr Cys Xaa Xaa Xaa Tyr Xaa Asp Tyr Phe Xaa Xaa Trp Gly Gln Gly
100 105 110

Thr Xaa Leu Thr Val Ser Ser
115

<210> 14
<211> 112
<212> PRT
<213> artificial

<220>
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<220>
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<222> (7)..(7)
<223> X is T or S

<220>
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<222> (8)..(8)
<223> X is P or T

<220>
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<222> (12)..(12)
<223> X is T or A or V

<220>
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<222> (33)..(33)
<223> X is T or D

<220>
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<223> X is M or T

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<222> (49)..(49)
<223> X is K o rT

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<223> X is K or T

<220>
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<222> (50)..(50)
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<220>
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<220>
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<223> X is L or R

<220>
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<222> (59)..(59)
<223> X is E or D

<220>
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<222> (64)..(64)
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<220>
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<222> (85)..(85)
<223> X is D or E

<220>
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<222> (89)..(89)
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<220>
<221> misc_feature
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<223> Xaa can be any naturally occurring amino acid

<220>
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<223> X is P or Y

<220>
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<220>
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<222> (110)..(110)
<223> X is L or I

<220>
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<222> (111)..(111)
<223> X is Q or K

<400> 14

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

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

Xaa Tyr Ser Tyr Xaa His Trp Tyr Gln Gln Xaa Pro Gly Gln Pro Pro
        35                  40                  45

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

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

Pro Val Glu Glu Xaa Asp Thr Ala Xaa Tyr Tyr Cys Gln His Ser Trp
                85                  90                  95

Glu Ile Pro Xaa Thr Phe Xaa Gly Gly Thr Lys Leu Glu Xaa Xaa Arg
            100                 105                 110
```

<210> 15
<211> 119
<212> PRT
<213> artificial

<220>
<223> heavy chain amino acid sequence of CRCBT-06-001

<400> 15

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

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

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

Ala Glu Ile Arg Ser Lys Ser Asp Asn Tyr Ala Thr His Tyr Ala Glu
    50                  55                  60

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

Phe Phe Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
                85                  90                  95
```

Tyr Cys Ser Ser Thr Tyr Ala Asp Tyr Phe His Tyr Trp Gly Gln Gly
100 105 110

Thr Asp Leu Thr Val Ser Ser
115

<210> 16
<211> 119
<212> PRT
<213> artificial

<220>
<223> heavy chain amino acid sequence of CRCBT-06-002

<400> 16

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

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

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

Ala Glu Ile Arg Leu Gln Ser Asn Asp Tyr Pro Thr His Tyr Ala Glu
50 55 60

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

Val Tyr Leu Gln Met Asn Asn Leu Arg Pro Glu Asp Thr Gly Ile Tyr
85 90 95

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 17
<211> 119
<212> PRT
<213> artificial

<220>
<223> heavy chain amino acid sequence of CRCBT-06-003

<400> 17

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

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

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

Ala Glu Ile Arg Leu Lys Ser Asp Asn Tyr Ala Thr His Tyr Ala Glu
    50                  55                  60

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

Leu Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Gly Ile Tyr
                85                  90                  95

Tyr Cys Thr Gly Arg Tyr Ser Asp Tyr Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Thr Leu Thr Val Ser Ser
        115


<210>  18
<211>  119
<212>  PRT
<213>  artificial

<220>
<223>  heavy chain amino acid sequence of CRCBT-06-004

<400>  18

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

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

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

Ala Glu Ile Arg Leu Lys Ser Asp Asn Tyr Ala Thr His Tyr Ala Glu
    50                  55                  60

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

Leu Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Gly Ile Tyr
                85                  90                  95
```

Tyr Cys Thr Gly Arg Tyr Ser Asp Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Thr Leu Thr Val Ser Ser
115

<210> 19
<211> 119
<212> PRT
<213> artificial

<220>
<223> heavy chain amino acid sequence of CRCBT-06-005

<400> 19

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

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

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

Ala Glu Ile Arg Leu Gln Ser Asn Asp Tyr Pro Thr His Tyr Ala Glu
50 55 60

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

Val Tyr Leu Gln Met Asn Asn Leu Arg Pro Glu Asp Thr Gly Ile Tyr
85 90 95

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 20
<211> 119
<212> PRT
<213> artificial

<220>
<223> heavy chain amino acid sequence of CRCBT-06-006

<400> 20

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

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

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

Ala Glu Ile Arg Leu Gln Ser Asn Asp Tyr Pro Thr His Tyr Ala Glu
    50                  55                  60

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

Val Tyr Leu Gln Met Asn Asn Leu Arg Pro Glu Asp Thr Gly Ile Tyr
                85                  90                  95

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

Thr Thr Leu Thr Val Ser Ser
        115
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<210> 21
<211> 119
<212> PRT
<213> artificial

<220>
<223> heavy chain amino acid sequence of CRCBT-06-007

<400> 21

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

Ser Met Lys Leu Ser Cys Ile Ala Ser Gly Phe Ser Phe Ser Lys Tyr
            20                  25                  30

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

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

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

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
                85                  90                  95
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Tyr Cys Thr Lys Ser Tyr Ala Asp Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Thr Leu Thr Val Ser Ser
115

<210> 22
<211> 112
<212> PRT
<213> artificial

<220>
<223> light chain amino acid sequence of CRCBT-06-001

<400> 22

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

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

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

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

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

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

Glu Ile Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105 110

<210> 23
<211> 112
<212> PRT
<213> light chain amino acid sequence of CRCBT-06-002

<400> 23

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

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

Asp Tyr Ser Tyr Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

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

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

Pro Val Glu Glu Asp Asp Thr Ala Ile Tyr Tyr Cys Gln His Ser Trp
                85                  90                  95

Glu Ile Pro Pro Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Gln Arg
            100                 105                 110
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<210> 24
<211> 106
<212> PRT
<213> artificial

<220>
<223> light chain amino acid sequence of CRCBT-06-003

<400> 24

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

Glu Lys Val Thr Ile Thr Cys Ser Val Asn Ser Ser Ile Ser Ser Ser
            20                  25                  30

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

Phe Met Ala His Pro Thr Trp Leu Leu Glu Ser Leu Leu Ala Ser Val
    50                  55                  60

Ala Val Asp Leu Gly Pro Leu Thr Leu Ser His Ser Ala Ala Trp Arg
65                  70                  75                  80

Leu Lys Met Leu Pro Leu Ile Thr Val Asn Ser Gly Val Val Pro His
                85                  90                  95

Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
            100                 105
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<210> 25
<211> 106
<212> PRT
<213> artificial

<220>
<223> light chain amino acid sequence of CRCBT-06-004

<400> 25

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

Glu Lys Val Thr Ile Thr Cys Ser Val Asn Ser Ser Ile Ser Ser Ser
20 25 30

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

Phe Met Ala His Pro Thr Trp Leu Leu Glu Ser Leu Leu Ala Ser Val
50 55 60

Ala Val Asp Leu Gly Pro Leu Thr Leu Ser His Ser Ala Ala Trp Arg
65 70 75 80

Leu Lys Met Leu Pro Leu Ile Thr Val Asn Ser Gly Val Val Pro His
85 90 95

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

<210> 26
<211> 112
<212> PRT
<213> artificial

<220>
<223> light chain amino acid sequence of CRCBT-06-005

<400> 26

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

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

Thr Tyr Ser Tyr Met His Trp Tyr Gln Gln Thr Pro Gly Gln Pro Pro
35 40 45

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

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

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

Glu Ile Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105 110

<210> 27
<211> 112
<212> PRT
<213> artificial

<220>
<223> light chain amino acid sequence of CRCBT-06-006

<400> 27

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

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

Thr Tyr Ser Tyr Met His Trp Tyr Gln Gln Thr Pro Gly Gln Pro Pro
35 40 45

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

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

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

Glu Ile Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105 110

<210> 28
<211> 112
<212> PRT
<213> artificial

<220>
<223> light chain amino acid sequence of CRCBT-06-007

<400> 28

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

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

Ser Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro

35 40 45

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

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

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

Glu Ile Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105 110

<210> 29
<211> 50
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of hFn14 ectodomain mutant construct D45A

<400> 29

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Ala Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 30
<211> 50
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of hFn14 ectodomain mutant construct K48A

<400> 30

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Ala Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 31
<211> 50
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of hFn14 ectodomain mutant construct M50A

<400> 31

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Ala Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 32
<211> 50
<212> PRT
<213> amino acid sequence of hFn14 ectodomain mutant construct D62E

<400> 32

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Glu Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 33
<211> 20
<212> PRT
<213> artificial

<220>

<223> amino acid sequence of hFn14 subdomain 1

<400> 33

Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu
1 5 10 15

Asp Lys Cys Met
20

<210> 34
<211> 20
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of hFn14 subdomain 2

<400> 34

Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly
1 5 10 15

Cys Ala Ala Ala
20

<210> 35
<211> 14
<212> PRT
<213> artificial

<220>
<223> amino acid sequene of hFn14 subdomain 3

<400> 35

Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly
1 5 10

<210> 36
<211> 126
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of Fn14-GPI control

<400> 36

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

Leu Trp Leu Ala Leu Leu Arg Ser Val Ala Gly Glu Gln Ala Pro Gly
20 25 30

Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys

35 40 45

Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys
50 55 60

Leu Gly Cys Ala Ala Ala Pro Leu Ala Pro Phe Arg Leu Leu Trp Met
65 70 75 80

Thr Thr Ser Pro Gly Thr Pro Ala Pro Ala Ala Glu Glu Thr Met Thr
85 90 95

Thr Ser Pro Gly Thr Pro Ala Ser Ser His Tyr Leu Ser Cys Thr Ile
100 105 110

Val Gly Ile Ile Val Leu Ile Val Leu Leu Ile Val Phe Val
115 120 125

<210> 37
<211> 30
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying nucleic acid encoding extracellular domain of Fn14

<400> 37
cgcggatcca tggctcgggg ctcgctgcgc 30

<210> 38
<211> 36
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying nucleic acid encoding extracellular domain of Fn14

<400> 38
gctggtggtc atccaaagca gccggaaggg ggcagg 36

<210> 39
<211> 36
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying Trail R3 GPI anchor coding region

<400> 39
cggctgcttt ggatgaccac cagcccgggg actcct 36

<210> 40

<211> 33
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying Trail R3 GPI anchor coding region

<400> 40
cgcgctagct tatcaaacaa acacaatcag aag 33

<210> 41
<211> 32
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying light chain variable region of an antibody

<400> 41
gggagctcga yattgtgmts acmcarwctm ca 32

<210> 42
<211> 30
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying light chain variable region of an antibody

<400> 42
ggtgcatgcg gatacagttg gtgcagcatc 30

<210> 43
<211> 32
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying heavy chain variable region of an antibody

<220>
<221> misc_feature
<222> (18)..(18)
<223> n is a, c, g, or t

<400> 43
cttccggaat tcsargtnma gctgsagsag tc 32

<210> 44
<211> 35
<212> DNA
<213> artificial

<220>

<223> nucleotide sequence of a primer for amplifying heavy chain variable region of an antibody

<220>
<221> misc_feature
<222> (18)..(18)
<223> n is a, c, g, or t

<400> 44
cttccggaat tcsargtnma gctgsagsag tcwgg 35

<210> 45
<211> 36
<212> DNA
<213> artificial

<220>
<223> nucleotide sequence of a primer for amplifying heavy chain variable region of an antibody

<400> 45
ggaagatcta tagacagatg ggggtgtcgt tttggc 36

<210> 46
<211> 24
<212> PRT
<213> artificial

<220>
<223> amino acid sequence of hFn14 subdomain 1p

<400> 46

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp
20

<210> 47
<211> 20
<212> PRT
<213> artificial

<220>
<223> Fn14 sub-domain 2 in which the third and sixth cysteine residues in Fn14 ECD that form disulfide bonds are mutated to serine (designated herein "Sub-domain 2 Cys 3&6 delta S")

<400> 47

Asp Ser Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys Leu Gly
1 5 10 15

Ser Ala Ala Ala
20

<210> 48
<211> 20
<212> PRT
<213> artificial

<220>
<223> Fn14 sub-domain 2 in which the fourth and fifth cysteine residues in Fn14 ECD that form disulfide bonds are mutated to serine (designated herein "Sub-domain 2 Cys 4&5 delta S")

<400> 48

Asp Cys Ala Ser Ser Arg Ala Arg Pro His Ser Asp Phe Ser Leu Gly
1 5 10 15

Cys Ala Ala Ala
20

<210> 49
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD T33N mutant

<400> 49

Glu Gln Ala Pro Gly Asn Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 50
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD A34S mutant

<400> 50

Glu Gln Ala Pro Gly Thr Ser Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 51
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD R38S mutant

<400> 51

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Ser Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 52
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD R56P mutant

<400> 52

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Pro Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 53

<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD L77M mutant

<400> 53

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Met
50

<210> 54
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD R56A mutant

<400> 54

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Ala Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 55
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD R56K mutant

<400> 55

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

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Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Lys Ala Arg Pro
            20                  25                  30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
        35                  40                  45

Arg Leu
    50
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<210> 56
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD R58A mutant

<400> 56

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Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1               5                   10                  15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Ala Pro
            20                  25                  30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
        35                  40                  45

Arg Leu
    50
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<210> 57
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD W42A mutant

<400> 57

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Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Ala Ser
1               5                   10                  15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
            20                  25                  30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
        35                  40                  45

Arg Leu
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50

<210> 58
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD L46A mutant

<400> 58

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Ala Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 59
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD D51A

<400> 59

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Ala Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 60
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD S54A mutant

<400> 60

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ala Cys Arg Ala Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 61
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD A57G mutant

<400> 61

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Gly Arg Pro
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 62
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD P59A mutant

<400> 62

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Ala
20 25 30

His Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe

35 40 45

Arg Leu
50

<210> 63
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD H60A mutant

<400> 63

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

Ala Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 64
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD S61A mutant

<400> 64

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

His Ala Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 65
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD D62A mutant

<400> 65

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1   5   10   15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
            20   25   30

His Ser Ala Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
        35   40   45

Arg Leu
    50

<210> 66
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD F63A mutant

<400> 66

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1   5   10   15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
            20   25   30

His Ser Asp Ala Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
        35   40   45

Arg Leu
    50

<210> 67
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD L65A mutant

<400> 67

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1   5   10   15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro

20 25 30

His Ser Asp Phe Cys Ala Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 68
<211> 50
<212> PRT
<213> artificial

<220>
<223> Fn14 ECD H60K mutant

<400> 68

Glu Gln Ala Pro Gly Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser
1 5 10 15

Ala Asp Leu Asp Lys Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro
20 25 30

Lys Ser Asp Phe Cys Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe
35 40 45

Arg Leu
50

<210> 69
<211> 28
<212> DNA
<213> artificial

<220>
<223> primer for amplifying antibody light chain

<400> 69
atggagwcag acacactcct gytatggt 28

<210> 70
<211> 20
<212> DNA
<213> artificial

<220>
<223> primer for amplifying antibody light chain

<400> 70
ttttatctcc agcttggtgc 20