SEQUENCE LISTING

<110> Athera Biotechnologies AB

<120> New Antibodies

<130> ATHBE/P51641PC

<150> US 61/521593
<151> 2011-08-09

<160> 29

<170> PatentIn version 3.5

<210> 1
<211> 131
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of X19-A05 antibody

<400> 1

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 Ser Gly Tyr
20 25 30

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

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

Ala Arg Val Arg Phe Arg Ser Val Cys Ser Asn Ala Val Cys Arg Pro
100 105 110

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

Val Ser Ser
130

<210> 2
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL domain of X19-A05 antibody

<400> 2

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

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

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

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

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys
```

<210> 3
<211> 130
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of M99-B05 antibody

<400> 3

```
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 Ser Gly Tyr Trp
            20                  25                  30

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

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

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

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

```
Arg Val Arg Phe Arg Ser Val Cys Ser Asn Gly Val Cys Arg Pro Thr
            100                 105                 110


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


Ser Ser
    130


<210>  4
<211>  114
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL domain of M99-B05 antibody

<400>  4

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


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


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


Gln Pro Pro Lys Leu Leu Ile His Trp Ala Ser Thr Arg Glu Ser Gly
    50                  55                  60


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


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


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


Ile Lys



<210>  5
<211>  130
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VH domain of X19-A01 antibody

<400>  5

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 Ser Gly Tyr Trp
            20                  25                  30

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

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

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

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

Arg Val Arg Phe Arg Ser Val Cys Ser Asn Gly Val Cys Arg Pro Thr
            100                 105                 110

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

Ser Ser
    130
```

<210> 6
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL domain of X19-A01 antibody

<400> 6

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

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

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

Pro Pro Lys Leu Leu Ile His Trp Ala Ser Thr Arg Glu Ser Gly Val
    50                  55                  60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Asn Leu Gln Ala Glu Asp Val Ala Leu Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
```

100 105 110

Lys

<210> 7
<211> 130
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of X19-A03 antibody

<400> 7

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 Ser Gly Tyr Trp
20 25 30

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

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

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

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

Arg Val Arg Phe Arg Ser Val Cys Ser Asn Ala Val Cys Arg Pro Thr
100 105 110

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

Ser Ser
130

<210> 8
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL domain of X19-A03 antibody

<400> 8

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

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Phe Tyr Gln

20 25 30

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

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

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
85 90 95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100 105 110

Lys

<210> 9
<211> 130
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of X19-A07 antibody

<400> 9

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 Ser Gly Tyr Trp
20 25 30

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

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

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

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

Arg Val Arg Phe Arg Ser Val Cys Ser Asn Gly Val Cys Arg Pro Thr
100 105 110

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

Ser Ser
    130

<210> 10
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL domain of X19-A07 antibody

<400> 10

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

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

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

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

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65   70   75   80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85   90   95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100   105   110

Lys

<210> 11
<211> 131
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of X19-A09 antibody

<400> 11

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 Ser Gly Tyr
            20   25   30

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

```
Ser Tyr Ile Ser Pro Ser Gly Gly Gly Thr His 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 Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Val Arg Phe Arg Ser Val Cys Ser Asn Gly Val Cys Arg Pro
            100                 105                 110

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

Val Ser Ser
    130


<210>  12
<211>  113
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  VL domain of X19-A09 antibody

<400>  12

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

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

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

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

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys


<210>  13
```

<211> 130
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of X19-A11 antibody

<400> 13

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 Ser Gly Tyr Trp
20 25 30

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

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

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

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

Arg Val Arg Phe Arg Ser Val Ser Ser Asn Gly Val Ser Arg Pro Thr
100 105 110

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

Ser Ser
130

<210> 14
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> VL domain of the X19-A11 antibody

<400> 14

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

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

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

Pro Pro Lys Leu Leu Ile His Trp Ala Ser Thr Arg Glu Ser Gly Val

50 55 60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Asn Leu Gln Ala Glu Asp Val Ala Leu Tyr Tyr Cys Gln Gln
85 90 95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100 105 110

Lys

<210> 15
<211> 130
<212> PRT
<213> Artificial Sequence

<220>
<223> VH domain of X19-C01 antibody

<400> 15

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 Ser Gly Tyr Trp
20 25 30

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

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

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

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

Arg Val Arg Phe Arg Ser Val Ser Ser Asn Ala Val Ser Arg Pro Thr
100 105 110

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

Ser Ser
130

<210> 16
<211> 113
<212> PRT

<213> Artificial Sequence

<220>
<223> VL domain of the X19-C01 antibody

<400> 16

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

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

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

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

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Phe Asn Ala Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys
```

<210> 17
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR1 of the VH domain of X19-A05, M99-B05, X19-A01, X19-A03, X19-A07, X19-A09, X19-A11 and X19-C01 antibodies

<400> 17

```
Gly Tyr Trp Met
1
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<210> 18
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR2 of the VH domain of X19-A05, M99-B05, X19-A01, X19-A03, X19-A07, X19-A09, X19-A11 and X19-C01 antibodies

<400> 18

```
Tyr Ile Ser Pro Ser Gly Gly Gly Thr His Tyr Ala Asp Ser Val Lys
1               5                  10                  15
```

Gly

<210> 19
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR3 of the VH domain of X19-A05 and X19-A03 antibodies

<400> 19

Val Arg Phe Arg Ser Val Cys Ser Asn Ala Val Cys Arg Pro Thr Ala
1 5 10 15

Tyr Asp Ala Phe Asp Ile
20

<210> 20
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR3 of the VH domain of M99-B05, X19-A01, X19-A07 and X19-A09 antibodies

<400> 20

Val Arg Phe Arg Ser Val Cys Ser Asn Gly Val Cys Arg Pro Thr Ala
1 5 10 15

Tyr Asp Ala Phe Asp Ile
20

<210> 21
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR3 of the VH domain of X19-A11 antibody

<400> 21

Val Arg Phe Arg Ser Val Ser Ser Asn Gly Val Ser Arg Pro Thr Ala
1 5 10 15

Tyr Asp Ala Phe Asp Ile
20

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

<220>
<223> CDR3 of the VH domain of X19-C01 antibody

<400> 22

Val Arg Phe Arg Ser Val Ser Ser Asn Ala Val Ser Arg Pro Thr Ala
1 5 10 15

Tyr Asp Ala Phe Asp Ile
20

<210> 23
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR4 of the VL domain of X19-A05, X19-A03 and X19-C01 antibodies

<400> 23

Lys Ser Ser Gln Ser Val Phe Tyr Gln Ser Asn Lys Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 24
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR4 of the VL domain of M99-B05, X19-A01, X19-A07, X19-A09 and X19-A11 antibodies

<400> 24

Lys Ser Ser Gln Ser Val Phe Tyr Asn Ser Asn Lys Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 25
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR5 of the VL domain of X19-A05, M99-B05, X19-A01, X19-A03, X19-A07, X19-A09, X19-A11 and X19-C01 antibodies

<400> 25

Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 26
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> CDR6 of the VL domain of X19-A05, M99-B05, X19-A01, X19-A03, X19-A07, X19-A09, X19-A11 and X19-C01 antibodies

<400> 26

Gln Gln Tyr Phe Asn Ala Pro Arg Thr
1 5

<210> 27
<211> 330
<212> PRT
<213> Artificial Sequence

<220>
<223> CH region of M99-B05 antibody

<400> 27

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

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

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

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

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

195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 28
<211> 329
<212> PRT
<213> Artificial Sequence

<220>
<223> CH region of X19-A05 antibody

<400> 28

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

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

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

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

```
Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
            100                 105                 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
        115                 120                 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
    130                 135                 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145                 150                 155                 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
                165                 170                 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
            180                 185                 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
        195                 200                 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
    210                 215                 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225                 230                 235                 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
                245                 250                 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
            260                 265                 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
        275                 280                 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
    290                 295                 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305                 310                 315                 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly
                325
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<210> 29
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> VL region of M99-B05 and X19-A05 antibodies

<400> 29

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Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1               5                  10                  15

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

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

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
    50                  55                  60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65                  70                  75                  80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
                85                  90                  95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
            100                 105
```