

SEQUENCE LISTING

<110> ABBVIE INC.

BRUNCKO, MILAN

<120> ANTI-B7-H3 ANTIBODIES AND ANTIBODY DRUG CONJUGATES

<130> 117813-12620

<140>

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<150> US 62/347,476

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<160> 182

<170> PatentIn version 3.5

<210> 1

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<212> PRT

<213> Artificial Sequence

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<223> Synthetic: chAb2 VH amino acid sequence

<400> 1

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

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

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

Gly Met Ile His Pro Asp Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe
50 55 60

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

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

Ala Val Tyr Tyr Gly Ser Thr Tyr Trp Tyr Phe Asp Val Trp Gly Thr
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 2
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<213> Artificial Sequence

<220>
<223> Synthetic: chAb2 VH CDR1 amino acid sequence

<400> 2

Gly Tyr Thr Phe Thr Ser Tyr Trp Met His
1 5 10

<210> 3
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb2 VH CDR2 amino acid sequence

<400> 3

Met Ile His Pro Asp Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe Arg
1 5 10 15

Ser

<210> 4
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb2 VH CDR3 amino acid sequence

<400> 4

Tyr Tyr Gly Ser Thr Tyr Trp Tyr Phe Asp Val
1 5 10

<210> 5
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb2 VL amino acid sequence

<400> 5

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

Asp Gln Ala Tyr Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ile
20 25 30

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

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

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

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

Thr His Phe Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 6
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb2 VL CDR1 amino acid sequence

<400> 6

Arg Ser Ser Gln Ser Leu Val His Ile Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 7
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb2, chAb3, chAb10, huAb3VL.1, huAb3VL.1a, huAb3VL.1b, huAb3v2.1, huAb3v2.2, huAb3v2.3, huAb3v2.4, huAb3v2.5, huAb3v2.6, huAb3v2.7, huAb3v2.8, and huAb3v2.9 VL CDR2 amino acid sequence

<400> 7

Lys Val Ser Asn Arg Phe Ser
1 5

<210> 8

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb2 VL CDR3 amino acid sequence

<400> 8

Ser Gln Ser Thr His Phe Pro Phe Thr
1 5

<210> 9

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb3 VH amino acid sequence

<400> 9

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

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

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

Gly Leu Ile His Pro Asp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

Lys Asn Lys Ala Thr Leu Thr Val Asp Arg Ser Ser Ser Thr Ala Tyr

65 70 75 80

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

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

Leu Thr Val Ser Ser
 115

<210> 10

<211> 10

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<213> Artificial Sequence

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<223> Synthetic: chAb3, huAb3VH.1, huAb3VH.1a, huAb3VH.1b, huAb3v2.1,
 huAb3v2.2, huAb3v2.3, huAb3v2.4, huAb3v2.5, huAb3v2.6, huAb3v2.7,
 huAb3v2.8, and huAb3v2.9 VH CDR1 amino acid sequence

<400> 10

Gly Tyr Thr Phe Ser Ser Tyr Trp Met His
1 5 10

<210> 11

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb3, huAb3VH.1, huAb3VH.1a, and huAb3VH.1b VH CDR2
 amino acid sequence

<400> 11

Leu Ile His Pro Asp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe Lys
1 5 10 15

Asn

<210> 12

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb3, huAb3VH.1, huAb3VH.1a, huAb3VH.1b, huAb3v2.1, huAb3v2.2, huAb3v2.3, huAb3v2.4, huAb3v2.5, huAb3v2.6, huAb3v2.7, huAb3v2.8, and huAb3v2.9 VH CDR3 amino acid sequence

<400> 12

Gly Gly Arg Leu Tyr Phe Asp Tyr
1 5

<210> 13

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb3 VL amino acid sequence

<400> 13

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

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

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

<210> 14

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb3, huAb3VL.1, huAb3VL.1a, and huAb3VL.1b VL CDR1 amino acid sequence

<400> 14

Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Asp Thr Tyr Leu Arg
1 5 10 15

<210> 15

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb3, huAb3VL.1, huAb3VL.1a, huAb3VL.1b, huAb3v2.1, huAb3v2.2, huAb3v2.3, huAb3v2.4, huAb3v2.5, huAb3v2.6, huAb3v2.7, huAb3v2.8, and huAb3v2.9 VL CDR3 amino acid sequence

<400> 15

Ser Gln Ser Thr His Val Pro Tyr Thr
1 5

<210> 16

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb4 VH amino acid sequence

<400> 16

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

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

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

Gly Met Ile His Pro Asn Ser Gly Ser Asn Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Tyr
65 70 75 80

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

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

Leu Thr Val Ser Ser
115

<210> 17
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb4 VH CDR1 amino acid sequence

<400> 17

Gly Tyr Ser Phe Thr Ser Tyr Trp Met His
1 5 10

<210> 18
<211> 17
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<213> Artificial Sequence

<220>
<223> Synthetic: chAb4 VH CDR2 amino acid sequence

<400> 18

Met Ile His Pro Asn Ser Gly Ser Asn Asn Tyr Asn Glu Lys Phe Lys
1 5 10 15

Ser

<210> 19
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb4 VH CDR3 amino acid sequence

<400> 19

Arg Leu Gly Leu His Phe Asp Tyr

1 5

<210> 20

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb4 VL amino acid sequence

<400> 20

Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Pro Val Gly
1 5 10 15

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

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

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

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

Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Ser Ser Tyr Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 21

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb4 VL CDR1 amino acid sequence

<400> 21

Lys Ala Ser Gln Asn Val Gly Thr Ala Val Ala
1 5 10

<210> 22
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb4 VL CDR2 amino acid sequence

<400> 22

Ser Ala Ser Asn Arg Tyr Thr
1 5

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

<220>
<223> Synthetic: chAb4 VL CDR3 amino acid sequence

<400> 23

Gln Gln Tyr Ser Ser Tyr Pro Tyr Thr
1 5

<210> 24
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb18 VH amino acid sequence

<400> 24

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

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

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

Gly Tyr Ile Asn Pro Asn Ser Arg Asn Thr Asp Tyr Asn Gln Lys Phe
50 55 60

Lys Asp Glu Thr Thr Leu Thr Ala Asp Arg Ser Ser Ser Thr Ala Tyr

65 70 75 80

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

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

Ala Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 25

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18, huAb18VH.1, huAb18VH.1a, and huAb18VH.1b VH
CDR1 amino acid sequence

<400> 25

Gly Tyr Ser Phe Thr Ser Tyr Thr Ile His
1 5 10

<210> 26

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18, huAb18VH.1, and huAb18VH.1a VH CDR2 amino acid
sequence

<400> 26

Tyr Ile Asn Pro Asn Ser Arg Asn Thr Asp Tyr Asn Gln Lys Phe Lys
1 5 10 15

Asp

<210> 27

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18, huAb18VH.1, huAb18VH.1a, and huAb18VH.1b VH
CDR3 amino acid sequence

<400> 27

Tyr Ser Gly Ser Thr Pro Tyr Trp Tyr Phe Asp Val
1 5 10

<210> 28

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18 VL amino acid sequence

<400> 28

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

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 29

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18, huAb18VL.1, huAb18VL.1a, huAb18VL.1b,
huAb18VL.2, and huAb18VL.2a, VL CDR1 amino acid sequence

<400> 29

Arg Ala Ser Ser Ser Val Ser Tyr Met Asn
1 5 10

<210> 30

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18, huAb18VL.1, huAb18VL.1a, huAb18VL.1b,
huAb18VL.2, and huAb18VL.2a, VL CDR2 amino acid sequence

<400> 30

Ala Thr Ser Asn Leu Ala Ser
1 5

<210> 31

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb18, huAb18VL.1, huAb18VL.1a, huAb18VL.1b,
huAb18VL.2, and huAb18VL.2a, VL CDR3 amino acid sequence

<400> 31

Gln Gln Trp Ser Ser Asn Pro Leu Thr
1 5

<210> 32

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb13 VH amino acid sequence

<400> 32

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

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

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

Met Gly Tyr Ile His Ser Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu
50 55 60

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

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

Ala Gly Tyr Asp Asp Tyr Phe Glu Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 33

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb13, huAb13Vh.1, huAb13Vh.1a, huAb13Vh.1b,
huAb13v1, huAb13v2, huAb13v3, huAb13v4, huAb13v5, huAb13v6,
huAb13v7, huAb13v8, and huAb13v9 VH CDR1 amino acid sequence

<400> 33

Gly Tyr Ser Ile Thr Ser Gly Tyr Ser Trp His
1 5 10

<210> 34

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb13, huAb13Vh.1, huAb13Vh.1a, huAb13Vh.1b,
huAb13v1, huAb13v2, huAb13v3, huAb13v4, huAb13v5, huAb13v6,
huAb13v7, huAb13v8, and huAb13v9VH CDR2 amino acid sequence

<400> 34

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

<210> 35
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb13, huAb13Vh.1, huAb13Vh.1a, huAb13Vh.1b,
huAb13v1, huAb13v2, huAb13v3, huAb13v4, huAb13v5, huAb13v6,
huAb13v7, huAb13v8, and huAb13v9 VH CDR3 amino acid sequence

<400> 35

Tyr Asp Asp Tyr Phe Glu Tyr
1 5

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

<220>
<223> Synthetic: chAb13 VL amino acid sequence

<400> 36

Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

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

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

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

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

Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Phe
85 90 95

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

<210> 37
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic: chAb13, huAb13VL.1, huAb13VL.1a, huAb13VL.1b, huAb13v1, huAb13v2, huAb13v3, huAb13v4, huAb13v5, huAb13v6, huAb13v7, huAb13v8, and huAb13v9 VL CDR1 amino acid sequence

<400> 37

Lys Ala Ser Gln Asn Val Gly Phe Asn Val Ala
1 5 10

<210> 38
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic: chAb13, huAb13VL.1, huAb13VL.1a, huAb13VL.1b, huAb13v1, huAb13v2, huAb13v3, huAb13v4, huAb13v5, huAb13v6, huAb13v7, huAb13v8, and huAb13v9 VL CDR2 amino acid sequence

<400> 38

Ser Ala Ser Tyr Arg Tyr Ser
1 5

<210> 39
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic: huAb13VL.1, huAb13VL.1a, huAb13VL.1b, huAb13v1, huAb13v2, huAb13v3, huAb13v4, huAb13v5, huAb13v6, huAb13v7, huAb13v8, and huAb13v9 VL CDR3 amino acid sequence

<400> 39

Gln Gln Tyr Asn Trp Tyr Pro Phe Thr
1 5

<210> 40
<211> 118
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VH amino acid sequence

<400> 40

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

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

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

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

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

Leu Val Thr Val Ser Ala
115

<210> 41

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VH CDR1 amino acid sequence

<400> 41

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

<210> 42

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VH CDR2 amino acid sequence

<400> 42

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

Gly

<210> 43

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VH CDR3 amino acid sequence

<400> 43

Gln Gly Arg Tyr Ser Trp Ile Ala Tyr
1 5

<210> 44

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VL amino acid sequence

<400> 44

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

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

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

Lys Leu Leu Ile Tyr Leu 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 Arg
85 90 95

Glu Leu Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

<210> 45

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VL CDR1 amino acid sequence

<400> 45

Arg Ala Ser Lys Ser Val Ser Thr Ser Asp Tyr Ser Tyr Met His
1 5 10 15

<210> 46

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 and chAb17 VL CDR2 amino acid sequence

<400> 46

Leu Ala Ser Asn Leu Glu Ser
1 5

<210> 47

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb12 VL CDR3 amino acid sequence

<400> 47

Gln His Ser Arg Glu Leu Leu Thr
1 5

<210> 48

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb14 VH amino acid sequence

<400> 48

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

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

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

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

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

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

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

Ser Val Thr Val Ser Ser
115

<210> 49

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb14 and chAb8 VH CDR1 amino acid sequence

<400> 49

Gly Phe Thr Phe Ser Ser Tyr Gly Met Ser
1 5 10

<210> 50

<211> 17

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<213> Artificial Sequence

<220>

<223> Synthetic: chAb14 VH CDR2 amino acid sequence

<400> 50

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

Gly

<210> 51

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb14 VH CDR3 amino acid sequence

<400> 51

His Tyr Gly Ser Gln Thr Met Asp Tyr
1 5

<210> 52

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<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb14 VL amino acid sequence

<400> 52

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

Glu Thr Val Thr Ile Thr Cys Arg Thr Ser Gly Asn Ile His Asn Tyr
20 25 30

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

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

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

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His Phe Trp Ser Ile Met Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 53
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb14 VL CDR1 amino acid sequence

<400> 53

Arg Thr Ser Gly Asn Ile His Asn Tyr Leu Thr
1 5 10

<210> 54
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb14 VL CDR2 amino acid sequence

<400> 54

Asn Ala Lys Thr Leu Ala Asp
1 5

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

<220>
<223> Synthetic: chAb14 VL CDR3 amino acid sequence

<400> 55

Gln His Phe Trp Ser Ile Met Trp Thr
1 5

<210> 56

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

<220>
<223> Synthetic: chAb6 VH amino acid sequence

<400> 56

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

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

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

Gly Glu Ile Leu Pro Gly Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe
50 55 60

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 57
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb6 VH CDR1 amino acid sequence

<400> 57

Gly Tyr Thr Phe Ser Arg Tyr Trp Ile Glu
1 5 10

<210> 58
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb6 VH CDR2 amino acid sequence

<400> 58

Glu Ile Leu Pro Gly Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe Lys
1 5 10 15

Gly

<210> 59
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb6 VH CDR3 amino acid sequence

<400> 59

Arg Gly Tyr Gly Tyr Val Pro Tyr Ala Leu Asp Tyr
1 5 10

<210> 60
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb6 VL amino acid sequence

<400> 60

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

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

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Asn Leu Leu Ile
35 40 45

Tyr Tyr Thr Ser Arg Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly

50 55 60

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

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 61

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb6 VL CDR1 amino acid sequence

<400> 61

Arg Ala Ser Gln Asp Ile Ser Asn Ser Leu Asn
1 5 10

<210> 62

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb6 VL CDR2 amino acid sequence

<400> 62

Tyr Thr Ser Arg Leu Tyr Ser
1 5

<210> 63

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb6 VL CDR3 amino acid sequence

<400> 63

Gln Gln Gly Asn Thr Leu Pro Tyr Thr
1 5

<210> 64
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb11 VH amino acid sequence

<400> 64

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

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

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

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

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

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

Tyr Cys Ala Arg Glu Ser Pro Gly Asn Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 65
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb11 VH CDR1 amino acid sequence

<400> 65

Gly Phe Thr Phe Thr Asn Tyr Tyr Met Ser

1 5 10

<210> 66

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb11 VH CDR2 amino acid sequence

<400> 66

Phe Ile Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala Ser
1 5 10 15

Val Lys Gly

<210> 67

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb11 VH CDR3 amino acid sequence

<400> 67

Glu Ser Pro Gly Asn Pro Phe Ala Tyr
1 5

<210> 68

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb11 VL amino acid sequence

<400> 68

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

Glu Lys Val Thr Met Thr Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30

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

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

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

Lys

<210> 69

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb11 VL CDR1 amino acid sequence

<400> 69

Lys Ser Ser Gln Ser Leu Leu Asn Ser Gly Thr Gln Lys Asn Phe Leu
1 5 10 15

Thr

<210> 70

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb11 VL CDR2 amino acid sequence

<400> 70

Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 71

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb11 VL CDR3 amino acid sequence

<400> 71

Gln Asn Asp Tyr Ile Tyr Pro Leu Thr

1 5

<210> 72

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb16 VH amino acid sequence

<400> 72

Glu Val Lys Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Arg Tyr

20 25 30

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

35 40 45

Gly Glu Ile Asn Pro Asp Ser Ser Thr Ile Asn Tyr Thr Pro Ser Leu

50 55 60

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

65 70 75 80

Leu Gln Met Ser Lys Val Arg Ser Glu Asp Thr Ala Leu Tyr Tyr Cys

85 90 95

Ala Arg Pro Gly Phe Gly Asn Tyr Ile Tyr Ala Met Asp Tyr Trp Gly

100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser

115 120

<210> 73
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb16 VH CDR1 amino acid sequence

<400> 73

Gly Phe Asp Phe Ser Arg Tyr Trp Met Ser
1 5 10

<210> 74
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb16 VH CDR2 amino acid sequence

<400> 74

Glu Ile Asn Pro Asp Ser Ser Thr Ile Asn Tyr Thr Pro Ser Leu Lys
1 5 10 15

Asp

<210> 75
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb16 VH CDR3 amino acid sequence

<400> 75

Pro Gly Phe Gly Asn Tyr Ile Tyr Ala Met Asp Tyr
1 5 10

<210> 76
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb16 VL amino acid sequence

<400> 76

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

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

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
35 40 45

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

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

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Pro
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 77

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb16 VL CDR1 amino acid sequence

<400> 77

Arg Ala Ser Gln Asp Ile Ser Asn Phe Leu Asn
1 5 10

<210> 78

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb16 VL CDR2 amino acid sequence

<400> 78

Tyr Thr Ser Arg Leu Tyr Leu
1 5

<210> 79

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb16 VL CDR3 amino acid sequence

<400> 79

Gln Gln Gly Asn Thr Leu Pro Pro Thr
1 5

<210> 80

<211> 125

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VH amino acid sequence

<400> 80

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

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

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

Met Gly His Ile Asn Tyr Ser Gly Ile Thr Asn Tyr Asn Pro Ser Leu
50 55 60

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

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

Ala Arg Arg Ser Leu Phe Tyr Tyr Tyr Gly Ser Ser Leu Tyr Ala Met
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser

115

120

125

<210> 81

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VH CDR1 amino acid sequence

<400> 81

Gly Tyr Ser Ile Thr Ser Asp Tyr Ala Trp Asn

1 5 10

<210> 82

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VH CDR2 amino acid sequence

<400> 82

His Ile Asn Tyr Ser Gly Ile Thr Asn Tyr Asn Pro Ser Leu Lys Ser

1 5 10 15

<210> 83

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VH CDR3 amino acid sequence

<400> 83

Arg Ser Leu Phe Tyr Tyr Tyr Gly Ser Ser Leu Tyr Ala Met Asp Tyr

1 5 10 15

<210> 84

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VL amino acid sequence

<400> 84

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

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

Thr His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 85

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VL CDR1 amino acid sequence

<400> 85

Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 86

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb10 VL CDR3 amino acid sequence

<400> 86

Ser Gln Ser Thr His Val Pro Trp Thr
1 5

<210> 87
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb7 VH amino acid sequence

<400> 87

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

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Arg Gly Tyr
20 25 30

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

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

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

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

Ala Arg Arg Gly Gly Asn Tyr Ala Gly Phe Ala Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ala
115

<210> 88
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb7 VH CDR1 amino acid sequence

<400> 88

Gly Phe Ser Phe Arg Gly Tyr Gly Met Ser
1 5 10

<210> 89
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb7 VH CDR2 amino acid sequence

<400> 89

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

Gly

<210> 90
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb7 VH CDR3 amino acid sequence

<400> 90

Arg Gly Gly Asn Tyr Ala Gly Phe Ala Tyr
1 5 10

<210> 91
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb7 VL amino acid sequence

<400> 91

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

Glu Thr Val Thr Ile Thr Cys Arg Pro Ser Glu Asn Ile Tyr Ser Asn
20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Gly Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Phe
85 90 95

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

<210> 92

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb7 VL CDR1 amino acid sequence

<400> 92

Arg Pro Ser Glu Asn Ile Tyr Ser Asn Leu Ala
1 5 10

<210> 93

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb7 and chAb8 VL CDR2 amino acid sequence

<400> 93

Ala Ala Thr Asn Leu Ala Asp
1 5

<210> 94

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb7 VL CDR3 amino acid sequence

<400> 94

Gln His Phe Trp Gly Thr Pro Phe Thr
1 5

<210> 95

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb8 VH amino acid sequence

<400> 95

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

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

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 96

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb8 VH CDR2 amino acid sequence

<400> 96

Thr Ile Ser Gly Gly Gly Asn Tyr Thr Tyr Cys Pro Asp Ser Val Lys
1 5 10 15

Gly

<210> 97

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb8 VH CDR3 amino acid sequence

<400> 97

Gln Arg Gly Tyr Asp Tyr His Tyr Ala Met Asp Phe
1 5 10

<210> 98

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb8 VL amino acid sequence

<400> 98

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

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

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

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

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

Glu Asp Phe Gly Ser Tyr Phe Cys Gln Asn Phe Trp Gly Thr Ser Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 99

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb8 VL CDR1 amino acid sequence

<400> 99

Arg Ala Ser Glu Asn Ile Tyr Ser Asn Leu Ala
1 5 10

<210> 100

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb8 VL CDR3 amino acid sequence

<400> 100

Gln Asn Phe Trp Gly Thr Ser Trp Thr
1 5

<210> 101

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb17 VH amino acid sequence

<400> 101

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

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

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

Ala Ser Ile Val Ser Ser Asn Ile Thr Tyr Tyr Pro Asp Ser Met Lys
50 55 60

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

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

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

Val Thr Val Ser Ala
115

<210> 102
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb17 VH CDR1 amino acid sequence
<400> 102

Gly Phe Thr Phe Ser Ser Tyr Ile Met Ser
1 5 10

<210> 103
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb17 VH CDR2 amino acid sequence
<400> 103

Ser Ile Val Ser Ser Asn Ile Thr Tyr Tyr Pro Asp Ser Met Lys Gly
1 5 10 15

<210> 104
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic: chAb17 VH CDR3 amino acid sequence

<400> 104

Ser Gly Thr Arg Ala Trp Phe Ala Tyr
1 5

<210> 105

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb17 VL amino acid sequence

<400> 105

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

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

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

Lys Leu Leu Ile Tyr Leu 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 Arg
85 90 95

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

<210> 106

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb17 VL CDR1 amino acid sequence

<400> 106

Arg Ala Ser Lys Ser Val Ser Thr Ser Ala Tyr Ser Tyr Met His
1 5 10 15

<210> 107

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb17 VL CDR3 amino acid sequence

<400> 107

Gln His Ser Arg Glu Leu Pro Tyr Thr
1 5

<210> 108

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb5 VH amino acid sequence

<400> 108

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

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

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

Gly Met Ile His Pro Asn Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Ala Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Cys
65 70 75 80

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

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

Thr Val Thr Val Ser Ser
115

<210> 109
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb5 VH CDR1 amino acid sequence

<400> 109

Gly Tyr Thr Phe Thr Thr Asp Trp Met His
1 5 10

<210> 110
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb5 VH CDR2 amino acid sequence

<400> 110

Met Ile His Pro Asn Ser Gly Thr Thr Asn Tyr Asn Glu Lys Phe Lys
1 5 10 15

Ser

<210> 111
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb5 VH CDR3 amino acid sequence

<400> 111

Ser Tyr Trp Lys Trp Tyr Phe Asp Val
1 5

<210> 112
<211> 106
<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb5 VL amino acid sequence

<400> 112

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

Glu Glu Ile Thr Leu Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Ser Ala Asp Tyr Tyr Cys His Gln Trp Thr Ser Tyr Met Tyr Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 113

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb5 VL CDR1 amino acid sequence

<400> 113

Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 114

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb5 VL CDR2 amino acid sequence

<400> 114

Ser Thr Ser Asn Leu Ala Ser
1 5

<210> 115

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: chAb5 VL CDR3 amino acid sequence

<400> 115

His Gln Trp Thr Ser Tyr Met Tyr Thr
1 5

<210> 116

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VH.1, huAb18v1, and huAb18v5 VH amino acid
sequence

<400> 116

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

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

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

Gly Tyr Ile Asn Pro Asn Ser Arg Asn Thr Asp Tyr Asn Gln Lys Phe
50 55 60

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

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

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

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 117

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VH.1a, huAb18v3, huAb18v8, and huAb18v9 VH amino
acid sequence

<400> 117

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

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

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

Gly Tyr Ile Asn Pro Asn Ser Arg Asn Thr Asp Tyr Asn Gln Lys Phe
50 55 60

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

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

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

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 118

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VH.1b, huAb18v2, huAb18v4, huAb18v6, huAb18v7,
and huAb18v10 VH amino acid sequence

<400> 118

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

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

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

Gly Tyr Ile Asn Pro Asn Ser Arg Asn Thr Asp Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

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

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 119

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VH.1b VH CDR2 amino acid sequence

<400> 119

Tyr Ile Asn Pro Asn Ser Arg Asn Thr Asp Tyr Ala Gln Lys Phe Gln
1 5 10 15

Gly

<210> 120

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VL.1, huAb18v1, and huAb18v2 VL amino acid sequence

<400> 120

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 121

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VL.1a, huAb18v3, and huAb18v4 VL amino acid sequence

<400> 121

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

1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 122

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VL.1b, huAb18v8, and huAb18v10 VL amino acid
sequence

<400> 122

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

Gly Ser Gly Thr Glu His Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu

65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 123

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VL.2, huAb18v5, and huAb18v6 VL amino acid
sequence

<400> 123

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30

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

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 124

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb18VL.2a, huAb18v7, and huAb18v9 VL amino acid sequence

<400> 124

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

Asn Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Pro Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 125

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3VH.1, huAb3v1, and huAb3v4 VH amino acid sequence

<400> 125

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

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

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

Gly Leu Ile His Pro Asp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 126

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3VH.1a, huAb3v3, and huAb3v6 VH amino acid
sequence

<400> 126

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

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

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

Gly Leu Ile His Pro Asp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 127

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3VH.1b, huAb3v2, and huAb3v5 VH amino acid
sequence

<400> 127

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

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

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

Gly Leu Ile His Pro Asp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 128

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3VL.1, huAb3v1, and huAb3v2 VL amino acid sequence

<400> 128

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 129

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3VL.1a and huAb3v3 VL amino acid sequence

<400> 129

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

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

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

<210> 130

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3VL.1b, huAb3v4, huAb3v5, and huAb3v6 VL amino
acid sequence

<400> 130

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 131

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.1, huAb3v2.2, and huAb3v2.3 VH amino acid sequence

<400> 131

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

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

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

Gly Leu Ile His Pro Trp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 132

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.1, huAb3v2.2, and huAb3v2.3 VH CDR2 amino acid sequence

<400> 132

Leu Ile His Pro Trp Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe Lys
1 5 10 15

Asn

<210> 133

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.1, huAb3v2.4, and huAb3v2.7 VL amino acid
sequence

<400> 133

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 134

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.1, huAb3v2.4, and huAb3v2.7 VL CDR1 amino acid

sequence

<400> 134

Arg Ser Ser Gln Ser Leu Val His Ser Ser Gly Asp Thr Tyr Leu Arg
1 5 10 15

<210> 135

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.2, huAb3v2.5, and huAb3v2.8 VL amino acid
sequence

<400> 135

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 136

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.2, huAb3v2.5, and huAb3v2.8 VL CDR1 amino acid
sequence

<400> 136

Arg Ser Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu Arg
1 5 10 15

<210> 137

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.3, huAb3v2.6, and huAb3v2.9 VL amino acid
sequence

<400> 137

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 138

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.3, huAb3v2.6, and huAb3v2.9 VL CDR1 amino acid
sequence

<400> 138

Arg Ser Ser Gln Ser Leu Val His Ser Asn Gln Asp Thr Tyr Leu Arg
1 5 10 15

<210> 139

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.4, huAb3v2.5, and huAb3v2.6 VH amino acid
sequence

<400> 139

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

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

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

Gly Leu Ile His Pro Glu Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 140

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.4, huAb3v2.5, and huAb3v2.; VH CDR2 amino acid sequence

<400> 140

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

Asn

<210> 141

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb3v2.7, huAb3v2.8, and huAb3v2.9 VH amino acid sequence

<400> 141

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

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

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

Gly Leu Ile His Pro Ile Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 142
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: huAb3v2.7, huAb3v2.8, and huAb3v2.9 VH CDR2 amino acid sequence

<400> 142

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

Asn

<210> 143
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: huAb13VL.1, huAb13v2, huAb13v5, and huAb13v7 VL amino acid sequence

<400> 143

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

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

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Trp Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 144

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb13VL.1a, huAb13v1, huAb13v3, and huAb13v8 VL amino acid sequence

<400> 144

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

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

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

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

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

Glu Asp Phe Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Trp Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 145

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAB13VL.1b, huAb13v4, huAb13v6, and huAb13v9 VL amino acid sequence

<400> 145

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

1 5 10 15

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

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

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

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

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Trp Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 146

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb13VH.1, huAb13v2, huAb13v3, and huAb13v4 VH amino
acid sequence

<400> 146

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

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

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

Ile Gly Tyr Ile His Ser Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu
50 55 60

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser

65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

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

Thr Val Ser Ser
 115

<210> 147

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb13VH.1a, huAb13v1, huAb13v5, and huAb13v6 VH amino
 acid sequence

<400> 147

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

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

Tyr Ser Trp His Trp Ile Arg Gln Phe Pro Gly Asn Gly Leu Glu Trp
 35 40 45

Met Gly Tyr Ile His Ser Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu
 50 55 60

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

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Gly Tyr Asp Asp Tyr Phe Glu Tyr Trp Gly Gln Gly Thr Thr Val
 100 105 110

Thr Val Ser Ser

115

<210> 148

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: huAb13VH.1b, huAb13v7, huAb13v8, and huAb13v9 VH amino acid sequence

<400> 148

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

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

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

Met Gly Tyr Ile His Ser Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu
50 55 60

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

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

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

Thr Val Ser Ser
115

<210> 149

<211> 534

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(534)

<223> B7-H3 amino acid sequence (human)

<400> 149

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

Ala Leu Gly Ala Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu Val Gln
20 25 30

Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu
35 40 45

Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
50 55 60

Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala
65 70 75 80

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

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

Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp
115 120 125

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

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr
145 150 155 160

Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val
165 170 175

Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr
180 185 190

Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Ile Leu
195 200 205

Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
210 215 220

Pro Val Leu Gln Gln Asp Ala His Ser Ser Val Thr Ile Thr Pro Gln
225 230 235 240

Arg Ser Pro Thr Gly Ala Val Glu Val Gln Val Pro Glu Asp Pro Val
245 250 255

Val Ala Leu Val Gly Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro
260 265 270

Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr
275 280 285

Asp Thr Lys Gln Leu Val His Ser Phe Thr Glu Gly Arg Asp Gln Gly
290 295 300

Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu Ala Gln
305 310 315 320

Gly Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly
325 330 335

Ser Phe Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val
340 345 350

Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu
355 360 365

Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser
370 375 380

Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln
385 390 395 400

Gly Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu
405 410 415

Gln Gly Leu Phe Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala
420 425 430

Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp
435 440 445

Ala His Gly Ser Val Thr Ile Thr Gly Gln Pro Met Thr Phe Pro Pro
450 455 460

Glu Ala Leu Trp Val Thr Val Gly Leu Ser Val Cys Leu Ile Ala Leu
465 470 475 480

Leu Val Ala Leu Ala Phe Val Cys Trp Arg Lys Ile Lys Gln Ser Cys
485 490 495

Glu Glu Glu Asn Ala Gly Ala Glu Asp Gln Asp Gly Glu Gly Glu Gly
500 505 510

Ser Lys Thr Ala Leu Gln Pro Leu Lys His Ser Asp Ser Lys Glu Asp
515 520 525

Asp Gly Gln Glu Ile Ala
530

<210> 150
<211> 692
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(692)
<223> Human B7-H3-ECD (fc fusion)

<400> 150

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

Ala Leu Gly Ala Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu Val Gln
20 25 30

Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu
35 40 45

Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
50 55 60

Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala
65 70 75 80

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

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

Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp
115 120 125

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

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr
145 150 155 160

Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val
165 170 175

Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr
180 185 190

Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Ile Leu
195 200 205

Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
210 215 220

Pro Val Leu Gln Gln Asp Ala His Ser Ser Val Thr Ile Thr Pro Gln
225 230 235 240

Arg Ser Pro Thr Gly Ala Val Glu Val Gln Val Pro Glu Asp Pro Val
245 250 255

Val Ala Leu Val Gly Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro
260 265 270

Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr
275 280 285

Asp Thr Lys Gln Leu Val His Ser Phe Thr Glu Gly Arg Asp Gln Gly
290 295 300

Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu Ala Gln
305 310 315 320

Gly Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly
325 330 335

Ser Phe Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val
340 345 350

Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu
355 360 365

Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser
370 375 380

Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln
385 390 395 400

Gly Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu
405 410 415

Gln Gly Leu Phe Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala
420 425 430

Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp
435 440 445

Ala His Gly Ser Val Thr Ile Thr Gly Gln Pro Met Thr Phe Ala Ala
450 455 460

Ala Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Glu
465 470 475 480

Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
485 490 495

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
500 505 510

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
515 520 525

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
530 535 540

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
545 550 555 560

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
565 570 575

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
580 585 590

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
595 600 605

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
610 615 620

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
625 630 635 640

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
645 650 655

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
660 665 670

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
675 680 685

Ser Pro Gly Lys
690

<210> 151

<211> 474
<212> PRT
<213> Mus musculus

<220>
<221> misc_feature
<222> (1)..(474)
<223> Mouse B7-H3-ECD (fc fusion)

<400> 151

Met Leu Arg Gly Trp Gly Gly Pro Ser Val Gly Val Cys Val Arg Thr
1 5 10 15

Ala Leu Gly Val Leu Cys Leu Cys Leu Thr Gly Ala Val Glu Val Gln
20 25 30

Val Ser Glu Asp Pro Val Val Ala Leu Val Asp Thr Asp Ala Thr Leu
35 40 45

Arg Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
50 55 60

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

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

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

Arg Val Thr Asp Glu Gly Ser Tyr Thr Cys Phe Val Ser Ile Gln Asp
115 120 125

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

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asn Met
145 150 155 160

Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val
165 170 175

Phe Trp Lys Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr
180 185 190

Ser Gln Met Ala Asn Glu Arg Gly Leu Phe Asp Val His Ser Val Leu
195 200 205

Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
210 215 220

Pro Val Leu Gln Gln Asp Ala His Gly Ser Val Thr Ile Thr Gly Gln
225 230 235 240

Pro Leu Thr Phe Ala Ala Ala Asp Lys Thr His Thr Cys Pro Pro Cys
245 250 255

Pro Ala Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro
260 265 270

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
275 280 285

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
290 295 300

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
305 310 315 320

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
325 330 335

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
340 345 350

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
355 360 365

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
370 375 380

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
385 390 395 400

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
405 410 415

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
420 425 430

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
435 440 445

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
450 455 460

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
465 470

<210> 152
<211> 460
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(460)
<223> Human B7-H3-ECD (his tag)

<400> 152

Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly
1 5 10 15

Val Gln Cys Gly Ala Leu Glu Val Gln Val Pro Glu Asp Pro Val Val
20 25 30

Ala Leu Val Gly Thr Asp Ala Thr Leu Cys Cys Ser Phe Ser Pro Glu
35 40 45

Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr Asp
50 55 60

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

Ala Tyr Ala Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu Ala Gln Gly
85 90 95

Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly Ser
100 105 110

Phe Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val Ser
115 120 125

Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu Pro
130 135 140

Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser Ser
145 150 155 160

Tyr Gln Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln Gly
165 170 175

Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu Gln
180 185 190

Gly Leu Phe Asp Val His Ser Ile Leu Arg Val Val Leu Gly Ala Asn
195 200 205

Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp Ala
210 215 220

His Ser Ser Val Thr Ile Thr Pro Gln Arg Ser Pro Thr Gly Ala Val
225 230 235 240

Glu Val Gln Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp
245 250 255

Ala Thr Leu Arg Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala
260 265 270

Gln Leu Asn Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His
275 280 285

Ser Phe Thr Glu Gly Arg Asp Gln Gly Ser Ala Tyr Ala Asn Arg Thr
290 295 300

Ala Leu Phe Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu
305 310 315 320

Gln Arg Val Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser
325 330 335

Ile Arg Asp Phe Gly Ser Ala Ala Val Ser Leu Gln Val Ala Ala Pro
340 345 350

Tyr Ser Lys Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro
355 360 365

Gly Asp Thr Val Thr Ile Thr Cys Ser Ser Tyr Arg Gly Tyr Pro Glu
370 375 380

Ala Glu Val Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn
385 390 395 400

Val Thr Thr Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His
405 410 415

Ser Val Leu Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu
420 425 430

Val Arg Asn Pro Val Leu Gln Gln Asp Ala His Gly Ser Val Thr Ile
435 440 445

Thr Gly Gln Pro Met Thr His His His His His
450 455 460

<210> 153
<211> 241
<212> PRT
<213> Mus musculus

<220>
<221> misc_feature
<222> (1)..(241)
<223> Mouse B7-H3-ECD (his tag)

<400> 153

Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly

1 5 10 15

Val Gln Cys Val Glu Val Gln Val Ser Glu Asp Pro Val Val Ala Leu
20 25 30

Val Asp Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro Glu Pro Gly
35 40 45

Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr Asp Thr Lys
50 55 60

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

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

Ser Leu Arg Leu Gln Arg Val Arg Val Thr Asp Glu Gly Ser Tyr Thr
100 105 110

Cys Phe Val Ser Ile Gln Asp Phe Asp Ser Ala Ala Val Ser Leu Gln
115 120 125

Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu Pro Asn Lys
130 135 140

Asp Leu Arg Pro Gly Asn Met Val Thr Ile Thr Cys Ser Ser Tyr Gln
145 150 155 160

Gly Tyr Pro Glu Ala Glu Val Phe Trp Lys Asp Gly Gln Gly Val Pro
165 170 175

Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu Arg Gly Leu
180 185 190

Phe Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala Asn Gly Thr
195 200 205

Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp Ala His Gly
210 215 220

Ser Val Thr Ile Thr Gly Gln Pro Leu Thr Phe His His His His His
225 230 235 240

His

<210> 154
<211> 473
<212> PRT
<213> Macaca fascicularis

<220>
<221> misc_feature
<222> (1)..(473)
<223> Cynomolgus B7-H3-ECD (his tag)

<400> 154

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

Ala Leu Gly Ala Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu Val Gln
20 25 30

Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu
35 40 45

Arg Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
50 55 60

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

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

Leu Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val
100 105 110

Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp
115 120 125

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

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr
145 150 155 160

Val Thr Ile Thr Cys Ser Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val
 165 170 175

Phe Trp Gln Asp Gly Gln Gly Ala Pro Leu Thr Gly Asn Val Thr Thr
 180 185 190

Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Val Leu
 195 200 205

Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
 210 215 220

Pro Val Leu Gln Gln Asp Ala His Gly Ser Ile Thr Ile Thr Pro Gln
225 230 235 240

Arg Ser Pro Thr Gly Ala Val Glu Val Gln Val Pro Glu Asp Pro Val
 245 250 255

Val Ala Leu Val Gly Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro
 260 265 270

Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr
 275 280 285

Asp Thr Lys Gln Leu Val His Ser Phe Thr Glu Gly Arg Asp Gln Gly
 290 295 300

Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe Leu Asp Leu Leu Ala Gln
305 310 315 320

Gly Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly
 325 330 335

Ser Phe Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val
 340 345 350

Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu

355 360 365

Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser
370 375 380

Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln
385 390 395 400

Gly Ala Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu
405 410 415

Gln Gly Leu Phe Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala
420 425 430

Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp
435 440 445

Ala His Gly Ser Val Thr Ile Thr Gly Gln Pro Met Thr Phe Ala Ala
450 455 460

Ala His His His His His His His
465 470

<210> 155
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: Amino acid sequence of IGHV1-69*06

<400> 155

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

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

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

Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe
50 55 60

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

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

Ala Arg

<210> 156
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: Amino acid sequence of IGHJ6*01

<400> 156

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
1 5 10

<210> 157
<211> 96
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: Amino acid sequence of IGKV1-9*01

<400> 157

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

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

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

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

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

65 70 75 80

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

<210> 158

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of IGKJ2*01

<400> 158

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 159

<211> 330

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Ig gamma-1 constant region

<400> 159

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 Glu Glu
225 230 235 240

Met 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> 160
<211> 330
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: Ig gamma-1 constant region mutant

<400> 160

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 Ala Ala 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 Glu Glu
225 230 235 240

Met 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> 161

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Ig Kappa constant region

<400> 161

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

<210> 162

<211> 105

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Ig Lambda constant region

<400> 162

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

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

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
35 40 45

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
50 55 60

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65 70 75 80

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
85 90 95

Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 163
<211> 96
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: Amino acid sequence of IGKV6-21*01

<220>
<221> misc_feature
<222> (96)..(96)
<223> Xaa can be any naturally occurring amino acid

<400> 163

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

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

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

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

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

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

<210> 164
<211> 101
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of IGKV2-28*01

<400> 164

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
85 90 95

Leu Gln Thr Pro Pro
100

<210> 165

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of IGKJ4*01

<400> 165

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
1 5 10

<210> 166

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of IGHV-b*01(0-1)

<400> 166

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

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

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

Ile Gly Ser Ile Tyr His Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
50 55 60

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

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 167

<211> 96

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of IGKv1-39*01

<400> 167

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

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

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

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

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

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

<210> 168

<211> 446

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb13v1 heavy chain

<400> 168

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

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

Tyr Ser Trp His Trp Ile Arg Gln Phe Pro Gly Asn Gly Leu Glu Trp
35 40 45

Met Gly Tyr Ile His Ser Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu
50 55 60

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

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Tyr Asp Asp Tyr Phe Glu Tyr Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
115 120 125

Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
130 135 140

Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
145 150 155 160

Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
 165 170 175

Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
 180 185 190

Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
 195 200 205

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr
 210 215 220

Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe
225 230 235 240

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
 245 250 255

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
 260 265 270

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 275 280 285

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
 290 295 300

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
305 310 315 320

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
 325 330 335

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 340 345 350

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 355 360 365

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
370 375 380

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
385 390 395 400

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
405 410 415

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
420 425 430

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 169

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb13v1 light chain

<400> 169

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

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

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

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

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

Glu Asp Phe Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Trp Tyr Pro Phe
85 90 95

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

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

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 170

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3v2.5 heavy chain

<400> 170

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

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

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

Gly Leu Ile His Pro Glu Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe

50 55 60

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

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

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

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 171

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3v2.5 light chain

<400> 171

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
195 200 205

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 172

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3v2.6 heavy chain

<400> 172

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

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

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

Gly Leu Ile His Pro Glu Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser

180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 173

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3v2.6 light chain

<400> 173

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe

130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
195 200 205

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 174

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: IGHV1-69*06_IGHJ6

<220>

<221> misc_feature

<222> (99)..(106)

<223> Xaa can be any naturally occurring amino acid; this section
represents the CDR-H3 region

<400> 174

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

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

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

Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe
50 55 60

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

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

Ala Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr Thr
 100 105 110

Val Thr Val Ser Ser
 115

<210> 175
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: IGKV2-28*01_IGKJ4

<220>
<221> misc_feature
<222> (94)..(102)
<223> Xaa can be any naturally occurring amino acid ; this section
 represents the CDR-L3 region

<400> 175

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
 20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Xaa Xaa Xaa

85 90 95

Xaa Xaa Xaa Xaa Xaa Xaa Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 176

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: IGHV4-b_IGHJ6

<220>

<221> misc_feature

<222> (99)..(105)

<223> Xaa can be any naturally occurring amino acid; this section
represents the CDR-H3 region

<400> 176

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

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

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

Ile Gly Ser Ile Tyr His Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
50 55 60

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

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser
115

<210> 177
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: IGKV1-39_IGKJ2

<220>
<221> misc_feature
<222> (89)..(97)
<223> Xaa can be any naturally occurring amino acid; this section
represents the CDR-L3 region

<400> 177

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

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

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
85 90 95

Xaa Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 178
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: Amino acid sequence of huAb3 VL1 variants

<220>

<221> misc_feature

<222> (33)..(33)

<223> X can be any naturally occurring amino acid, except M, C, N, D or Q

<400> 178

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Xaa Gly Asp Thr Tyr Leu Arg Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 179

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3 VL1 variants

<220>

<221> misc_feature

<222> (34)..(34)

<223> X can be any naturally occurring amino acid except M, C, G, S, N, or P

<400> 179

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

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Ser
85 90 95

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

<210> 180

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3 VH1b variants

<220>

<221> misc_feature

<222> (54)..(54)

<223> X can be any naturally occurring amino acid, except M, C, N, D or
Q

<400> 180

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

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

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

Gly Leu Ile His Pro Xaa Ser Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 181

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic: Amino acid sequence of huAb3 VH1b variants

<220>

<221> misc_feature

<222> (55)..(55)

<223> X can be any naturally occurring amino acid except M, C, G, S, N,
or P

<400> 181

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

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

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

Gly Leu Ile His Pro Asp Xaa Gly Ser Thr Asn Tyr Asn Glu Met Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 182
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic: chAb13 VL CDR3 amino acid sequence

<400> 182

Gln Gln Tyr Asn Ser Tyr Pro Phe Thr
1 5