SEQUENCE LISTING

<110> AB2 Bio SA

<120> IL-18 Binding Protein (IL-18BP) And Antibodies In Inflammatory Diseases

<130> W1568 PCT/A BS

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<151> 2015-09-24
<150> EP15 15 8781.3
<151> 2015-03-12
<150> EP15 15 7742.6
<151> 2015-03-05

<160> 390

<170> BiSSAP 1.3

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<400> 1
Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn
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Phe Ile Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val
1 5 10 15
Thr Thr Ile Ser Val Lys
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<400> 3
Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys Ser Asp Ile Ile
1 5 10 15
Phe

<210> 4
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<220>
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<400> 4

Tyr Phe Gly Lys Leu Glu Ser
1 5

<210> 5
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<220>
<223> Epitope

<400> 5
Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala
1 5 10

<210> 6
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<220>
<223> Epitope

<400> 6
Asp Asn Ile Lys Asp Thr Lys
1 5

<210> 7
<211> 164
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<213> Human

<220>
<223> Human interleukin-18 binding protein isoform a

<400> 7
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
20 25 30
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
50 55 60
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65 70 75 80
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
85 90 95
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
100 105 110
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
115 120 125
Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala
130 135 140
Thr Leu Pro Pro Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro
145 150 155 160
Gln Gln Gln Gly

<210> 8
<211> 13
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<220>
<223> Linker sequence

<400> 8

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Glu Phe Gly Ala Gly Leu Val Leu Gly Gly Gln Phe Met
1 5 10

<210> 9
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<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH variable domain sequence

<400> 9
Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15
Thr Val Lys Leu Ser Cys Arg Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30
Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
35 40 45
Gly Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala Asp Asp Phe
50 55 60
Lys Gly Gln Phe Ala Phe Ser Leu Glu Thr Ser Ala Ala Thr Ala Phe
65 70 75 80
Leu Gln Ile Asn Asn Leu Lys Asp Glu Asp Thr Ala Thr Tyr Phe Cys
85 90 95
Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 10
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK variable domain sequence

<400> 10
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1 5 10 15
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30
Arg Thr Arg Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Gly 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 Tyr Cys Lys Gln
85 90 95
Ser Tyr Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 11
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH variable domain sequence

<400> 11
Gln Ile Gln Leu Val Gln Ser Gly Pro Asp Ser Lys Lys Pro Gly Glu
1 5 10 15
Thr Val Lys Leu Ser Cys Arg Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
35 40 45
Gly Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala Asp Asp Phe
50 55 60
Lys Gly Gln Phe Ala Phe Ser Leu Glu Thr Ser Ala Ala Thr Ala Phe
65 70 75 80
Leu Gln Ile Asn Asn Leu Lys Asp Glu Asp Thr Ala Thr Tyr Phe Cys
85 90 95
Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 12
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK variable domain sequence

<400> 12
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1 5 10 15
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30
Arg Thr Arg Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Gly 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 Tyr Cys Lys Gln
85 90 95
Ser Tyr Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 13
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH variable domain sequence

<400> 13
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile Lys Asp Thr
20 25 30
Tyr Ile His Trp Val Ile Gln Arg Pro Ala Gln Gly Leu Glu Trp Ile
35 40 45
Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe
50 55 60
Gln Gly Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80
Ile His Leu Ser Ser Leu Thr Ser Gly Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110
Val Ser Ala
115

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

<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK variable domain sequence

<400> 14
Asp Val Val Met Thr Gln Val Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Arg Leu Val His Ser
20 25 30
Asn Gly Asn Thr Tyr Leu His Trp Phe Leu Gln Lys Pro Gly Gln Ser
35 40 45
Pro Lys Leu Leu Ile Tyr Thr 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 Leu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

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

<220>
<223> Antibody 111A6 VH variable domain sequence

<400> 15
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile Lys Asp Thr
20 25 30
Tyr Ile His Trp Val Ile Gln Arg Pro Ala Gln Gly Leu Glu Trp Ile
35 40 45
Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe
50 55 60
Gln Gly Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80
Ile His Leu Ser Ser Leu Thr Ser Gly Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110
Val Ser Ala
115

<210> 16
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK variable domain sequence 1

<400> 16
Glu Asn Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15
Glu Lys Val Thr Met Thr Cys Arg Ala Arg Ser Ser Val Ser Ser Ser
20 25 30
Tyr Leu His Trp Tyr Gln Gln Lys Ser Gly Ala Ser Pro Lys Leu Trp
35 40 45
Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr Arg Phe Ser
50 55 60
Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Val Glu
65 70 75 80

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Gly Tyr Pro
85 90 95
Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 17
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK variable domain sequence 2

<400> 17
Asp Val Val Met Thr Gln Val Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Arg Leu Val His Ser
20 25 30
Asn Gly Asn Thr Tyr Leu His Trp Phe Leu Gln Lys Pro Gly Gln Ser
35 40 45
Pro Lys Leu Leu Ile Tyr Thr 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 Leu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 18
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH variable domain sequence

<400> 18
Glu Val Gln Val Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile Lys Asp Thr
20 25 30
Tyr Ile His Trp Leu Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe
50 55 60
Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80
Ile Gln Leu Ser Ser Leu Thr Ser Gly Asp Thr Ala Val Tyr Phe Cys
85 90 95
Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110
Val Ser Ala
115

<210> 19
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 and 131B4-2 VK variable domain sequence

<400> 19
Asp Ala Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

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Asp Gln Ala Ser Ile Ser Cys Thr 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 Asp Arg Phe Ser Gly Val Pro
50 55 60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Met Ile
65 70 75 80
Thr Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95
Ser Leu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Val Lys
100 105 110

<210> 20
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH variable domain sequence 1

<400> 20
Gln Val Gln Leu Lys Gln Ser Arg Pro Gly Pro Val Gln Pro Ser Gln
1 5 10 15
Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Pro Asn Tyr
20 25 30
Gly Val His Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu
35 40 45
Gly Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Lys
50 55 60
Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Phe
65 70 75 80
Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Ile Tyr Tyr Cys Ala
85 90 95
Arg Asn Phe Tyr Ser Lys Tyr Asp Tyr Ala Met Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 21
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH variable domain sequence 2

<400> 21
Gln Val Gln Leu Gln Gln Pro Gly Ser Val Leu Val Arg 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 Asn Ile Asn Pro Asn Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe
50 55 60
Lys Gly Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Asp Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Leu Gly Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110
Ser

<210> 22

<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK variable domain sequence

<400> 22
Glu Asn Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15
Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Ser Ser Thr Ser Pro Lys Leu Trp Ile Tyr
35 40 45
Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Asn Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65 70 75 80
Asp Val Ala Thr Tyr Tyr Cys Phe Gln Gly Ser Gly Tyr Pro Leu Thr
85 90 95
Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 23
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH variable domain sequence

<400> 23
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 Asn Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Asn Pro Ala Lys Arg Leu Glu Trp Val
35 40 45
Ala Thr Ile Ser Ser Gly Gly Ala Asn Ile Tyr Tyr Pro Asp Ser Val
50 55 60
Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95
Ala Arg Gly Asp Tyr Phe Asn His Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110
Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 24
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK variable domain sequence

<400> 24
Asp Val Leu 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 Ile Val His Ser
20 25 30
Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45
Pro Lys Phe 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

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

<210> 25
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VH variable domain sequence

<400> 25
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 Asn Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Thr Pro Ala Lys Arg Leu Glu Trp Val
35 40 45
Thr Thr Ile Ser Ser Gly Gly Gly Asn Ile Tyr Tyr Thr Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95
Ala Arg Gly Asp Tyr Ser Asn Tyr Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110
Gly Thr Leu Val Ser Val Ser Glu
115 120

<210> 26
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK variable domain sequence

<400> 26
Asp Val Leu 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 Ile Val His Ser
20 25 30
Asn Gly Asn Thr Tyr Leu Glu 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 Tyr Cys Phe Gln Gly
85 90 95
Ser His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 27
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence CDR1

<400> 27

Gly Tyr Thr Phe Thr Asn Tyr Gly
1 5

<210> 28
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence CDR2

<400> 28
Ile Asn Thr Tyr Ser Gly Val Pro
1 5

<210> 29
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence CDR3

<400> 29
Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1 5 10

<210> 30
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence CDR1

<400> 30
Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr
1 5 10

<210> 31
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence CDR2

<400> 31
Trp Ala Ser
1

<210> 32
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence CDR3

<400> 32
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 33
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence CDR1

<400> 33
Gly Tyr Thr Phe Thr Asn Tyr Gly
1 5

<210> 34
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence CDR2

<400> 34
Ile Asn Thr Tyr Ser Gly Val Pro
1 5

<210> 35
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence CDR3

<400> 35
Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1 5 10

<210> 36
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK sequence CDR1

<400> 36
Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr
1 5 10

<210> 37
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK sequence CDR2

<400> 37
Trp Ala Ser
1

<210> 38
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 38
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 39

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

<220>
<223> Antibody 109A6 VH sequence CDR1

<400> 39
Gly Phe Lys Ile Lys Asp Thr Tyr
1 5

<210> 40
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH sequence CDR2

<400> 40
Ile Asp Pro Ala Asn Gly Asn Thr
1 5

<210> 41
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH sequence CDR3

<400> 41
Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 42
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence CDR1

<400> 42
Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr
1 5 10

<210> 43
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence CDR2

<400> 43
Thr Val Ser
1

<210> 44
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence CDR3

<400> 44

Ser Gln Ser Thr Leu Val Pro Trp Thr
1 5

<210> 45
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH sequence CDR1

<400> 45
Gly Phe Lys Ile Lys Asp Thr Tyr
1 5

<210> 46
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH sequence CDR2

<400> 46
Ile Asp Pro Ala Asn Gly Asn Thr
1 5

<210> 47
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH sequence CDR3

<400> 47
Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 48
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 1 CDR1

<400> 48
Ser Ser Val Ser Ser Ser Tyr
1 5

<210> 49
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 1 CDR2

<400> 49
Ser Thr Ser
1

<210> 50
<211> 9
<212> PRT
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<220>
<223> Antibody 111A6 VK sequence 1 CDR3

<400> 50
Gln Gln Tyr Ser Gly Tyr Pro Leu Thr
1 5

<210> 51
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 2 CDR1

<400> 51
Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr
1 5 10

<210> 52
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 2 CDR2

<400> 52
Thr Val Ser
1

<210> 53
<211> 9
<212> PRT
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<220>
<223> Antibody 111A6 VK sequence 2 CDR2

<400> 53
Ser Gln Ser Thr Leu Val Pro Trp Thr
1 5

<210> 54
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence CDR1

<400> 54
Gly Phe Lys Ile Lys Asp Thr Tyr
1 5

<210> 55
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<400> 55
Ile Asp Pro Ala Asn Gly Asn Thr
1 5

<210> 56

<211> 8
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<220>
<223> Antibody 131B4 VH sequence CDR3

<400> 56
Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 57
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK sequence CDR1

<400> 57
Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr
1 5 10

<210> 58
<211> 3
<212> PRT
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<220>
<223> Antibody 131B4 VK sequence CDR2

<400> 58
Lys Val Ser
1

<210> 59
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK sequence CDR3

<400> 59
Ser Gln Ser Ser Leu Val Pro Trp Thr
1 5

<210> 60
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR1

<400> 60
Gly Phe Ser Leu Pro Asn Tyr Gly
1 5

<210> 61
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR2

<400> 61

Ile Trp Ser Gly Gly Ser Thr
1 5

<210> 62
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR3

<400> 62
Ala Arg Asn Phe Tyr Ser Lys Tyr Asp Tyr Ala Met Asp Tyr
1 5 10

<210> 63
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 2 CDR1

<400> 63
Gly Tyr Thr Phe Thr Ser Tyr Trp
1 5

<210> 64
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 2 CDR2

<400> 64
Ile Asn Pro Asn Ser Gly Ser Thr
1 5

<210> 65
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 2 CDR3

<400> 65
Ala Arg Leu Gly Asp Tyr
1 5

<210> 66
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR1

<400> 66
Ser Ser Val Ser Tyr
1 5

<210> 67
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR2

<400> 67
Asp Thr Ser
1

<210> 68
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR3

<400> 68
Phe Gln Gly Ser Gly Tyr Pro Leu Thr
1   5

<210> 69
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH sequence CDR1

<400> 69
Gly Phe Thr Phe Ser Asn Tyr Ala
1   5

<210> 70
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH sequence CDR2

<400> 70
Ile Ser Ser Gly Gly Ala Asn Ile
1   5

<210> 71
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH sequence CDR3

<400> 71
Ala Arg Gly Asp Tyr Phe Asn His Phe Trp Phe Ala Tyr
1   5   10

<210> 72
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK sequence CDR1

<400> 72
Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr
1   5   10

<210> 73

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

<220>
<223> Antibody 132H4 VK sequence CDR2

<400> 73
Lys Val Ser
1

<210> 74
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK sequence CDR3

<400> 74
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 75
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VH sequence CDR1

<400> 75
Gly Phe Thr Phe Ser Asn Tyr Ala
1 5

<210> 76
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VH sequence CDR2

<400> 76
Ile Ser Ser Gly Gly Gly Asn Ile
1 5

<210> 77
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VH sequence CDR3

<400> 77
Ala Arg Gly Asp Tyr Ser Asn Tyr Phe Trp Phe Ala Tyr
1 5 10

<210> 78
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK sequence CDR1

<400> 78

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

<210> 79
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK sequence CDR2

<400> 79
Lys Val Ser
1

<210> 80
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK sequence CDR3

<400> 80
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 81
<211> 453
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH DNA sequence

<400> 81
atgggttggg tgtggacctt gccattcctg atggcagctg cccaaagtat ccaagcacag 60

atccagttgg tgcagtctgg tcctgaactg aagaagcctg gagagacagt caagctctcc 120

tgcagggctt ctggatatac attcacaaac tatggaatga actgggtgaa gcaggctcca 180

ggaaagggtt taaagtggat gggctggata aacacctact ctggagtgcc aacatatgct 240

gatgacttca agggacagtt tgccttctct ttggaaacct ctgccgccac tgccttttg 300

cagatcaaca acctcaaaga tgaggacacg gctacatatt tttgtgcaag agagggatat 360

agtactacca ggtctatgga ctactggggt caaggaacct cagtcaccgt ctcctcagcc 420

aaaacgacac ccccatctgt ctatccactg gcc 453

<210> 82
<211> 151
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence

<400> 82
Met Gly Trp Val Trp Thr Leu Pro Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15
Ile Gln Ala Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys
20 25 30
Pro Gly Glu Thr Val Lys Leu Ser Cys Arg Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Asn Tyr Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu
50 55 60
Lys Trp Met Gly Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala
65 70 75 80
Asp Asp Phe Lys Gly Gln Phe Ala Phe Ser Leu Glu Thr Ser Ala Ala
85 90 95
Thr Ala Phe Leu Gln Ile Asn Asn Leu Lys Asp Glu Asp Thr Ala Thr
100 105 110
Tyr Phe Cys Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
115 120 125
Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro
130 135 140
Pro Ser Val Tyr Pro Leu Ala
145 150

<210> 83
<211> 501
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK DNA sequence

<400> 83
atggagtcac agtctcaggt tcttatattg ctgctgctat gggtatctgg tacctgtggg 60

gacattgtga tgtcacagtc tccatcctcc ctggctgtgt cagcaggaga gaaggtcact 120

atgagctgca aatccagtca gagtctgctc gacagtagaa cccgaaagaa ctacttggtt 180

tggtaccagc agaaaccagg gcagtctcct aaactgctga tctactgggc atccactagg 240

ggatctgggg tccctgatcg cttcacaggc agtggatctg ggacagattt cactctcacc 300

atcagcagtg tgcaggctga agacctggca gtttattact gcaaacaatc ttataatctt 360

cggacgttcg gtggaggcac caagctggaa atcaaacggg ctgatgctgc accaactgta 420

tccatcttcc caccatccag tgagcagtta acatctggag gtgcctcagt cgtgtgcttc 480

ttgaacaact tctaccccaa a 501

<210> 84
<211> 167
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence

<400> 84
Met Glu Ser Gln Ser Gln Val Leu Ile Leu Leu Leu Leu Trp Val Ser
1 5 10 15
Gly Thr Cys Gly Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala
20 25 30
Val Ser Ala Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser
35 40 45
Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu Val Trp Tyr Gln Gln
50 55 60
Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg
65 70 75 80
Gly Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp
85 90 95
Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr
100 105 110
Tyr Cys Lys Gln Ser Tyr Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys
115 120 125

Leu Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro
130 135 140
Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe
145 150 155 160
Leu Asn Asn Phe Tyr Pro Lys
165

<210> 85
<211> 456
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence

<400> 85
atgggttggg tgtggacctt gctattcctg atggcagctg cccaaagtat ccaatcacag 60

atccagttgg tgcagtctgg tcctgattcg aagaagcctg gagagacagt caagctctcc 120

tgcagggctt ctggatatac attcacaaac tatggaatga actgggtgaa gcaggctcca 180

ggaaagggtt taaagtggat gggctggata aacacctact ctggagtgcc aacatatgct 240

gatgacttca agggacagtt tgccttctct ttggaaacct ctgccgccac tgccttttg 300

cagatcaaca acctcaaaga tgaggacacg gctacatatt tttgtgcaag agagggatat 360

agtactacca ggtctatgga ctactggggt caaggaacct cagtcaccgt ctcctcagcc 420

aaaacgacac ccccatctgt cttccccctg gcacct 456

<210> 86
<211> 152
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence

<400> 86
Met Gly Trp Val Trp Thr Leu Leu Phe Leu Met Ala Ala Ala Gln Ser
1 5 10 15
Ile Gln Ser Gln Ile Gln Leu Val Gln Ser Gly Pro Asp Ser Lys Lys
20 25 30
Pro Gly Glu Thr Val Lys Leu Ser Cys Arg Ala Ser Gly Tyr Thr Phe
35 40 45
Thr Asn Tyr Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu
50 55 60
Lys Trp Met Gly Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala
65 70 75 80
Asp Asp Phe Lys Gly Gln Phe Ala Phe Ser Leu Glu Thr Ser Ala Ala
85 90 95
Thr Ala Phe Leu Gln Ile Asn Asn Leu Lys Asp Glu Asp Thr Ala Thr
100 105 110
Tyr Phe Cys Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
115 120 125
Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro
130 135 140
Pro Ser Val Phe Pro Leu Ala Pro
145 150

<210> 87
<211> 510
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK DNA sequence

<400> 87
atgggcttca agatgaagtc agtcgacctg gttcttatat tgctgctgct atgggtatct 60

ggtacctgtg gggacattgt gatgtcacag tctccatcct ccctggctgt gtcagcagga 120

gagaaggtca ctatgagctg caaatccagt cagagtctgc tcgacagtag aacccgaaag 180

aactacttgg tttggtacca gcagaaacca gggcagtctc ctaaactgct gatctactgg 240

gcatccacta ggggatctgg ggtccctgat cgcttcacag gcagtggatc tgggacagat 300

ttcactctca ccatcagcag tgtgcaggct gaagacctgg cagtttatta ctgcaaacaa 360

tcttataatc ttcggacgtt cggtggaggc accaagctgg aaatcaaacg ggctgatgct 420

gcaccaactg tatccatctt cccaccatcc agtgagcagt taacatctgg aggtgcctca 480

gtcgtgtgct tcttgaacaa cttctacccc 510

<210> 88
<211> 170
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK sequence

<400> 88
Met Gly Phe Lys Met Lys Ser Val Asp Leu Val Leu Ile Leu Leu Leu
1 5 10 15
Leu Trp Val Ser Gly Thr Cys Gly Asp Ile Val Met Ser Gln Ser Pro
20 25 30
Ser Ser Leu Ala Val Ser Ala Gly Glu Lys Val Thr Met Ser Cys Lys
35 40 45
Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu Val
50 55 60
Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp
65 70 75 80
Ala Ser Thr Arg Gly Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly
85 90 95
Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp
100 105 110
Leu Ala Val Tyr Tyr Cys Lys Gln Ser Tyr Asn Leu Arg Thr Phe Gly
115 120 125
Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val
130 135 140
Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser
145 150 155 160
Val Val Cys Phe Leu Asn Asn Phe Tyr Pro
165 170

<210> 89
<211> 441
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH DNA sequence

<400> 89
atgaaatgca gctggattat gttcttcctg atggcagtgg ttacaggggt caattcagag 60

gttcagctgc agcagtctgg ggcagaactt gtgaagccag gggcctcagt caagttgtcc 120

tgcacagctt ctggcttcaa aattaaagac acctatatac actgggtgat ccagaggcct 180

gcacagggcc tggaatggat tggaaggatt gatcctgcga atggtaatac tatttatggc 240

tcaaagttcc agggcaaggc cactctaaca gcggacacat catccaacac agcctacatt 300

cacctcagca gcctgacatc tggggactct gccgtctatt actgtgcggg ctacgtttgg 360

tttgcttact ggggccaagg gactctggtc actgtctctg cagctacaac aacagcccca 420

tccgtcttcc ccctggcacc a 441

<210> 90
<211> 147
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH sequence

<400> 90
Met Lys Cys Ser Trp Ile Met Phe Phe Leu Met Ala Val Val Thr Gly
1 5 10 15
Val Asn Ser Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys
20 25 30
Pro Gly Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile
35 40 45
Lys Asp Thr Tyr Ile His Trp Val Ile Gln Arg Pro Ala Gln Gly Leu
50 55 60
Glu Trp Ile Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly
65 70 75 80
Ser Lys Phe Gln Gly Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn
85 90 95
Thr Ala Tyr Ile His Leu Ser Ser Leu Thr Ser Gly Asp Ser Ala Val
100 105 110
Tyr Tyr Cys Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr
115 120 125
Leu Val Thr Val Ser Ala Ala Thr Thr Thr Ala Pro Ser Val Phe Pro
130 135 140
Leu Ala Pro
145

<210> 91
<211> 498
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK DNA sequence

<400> 91
atgaagttgc ctgttaggct gttggtgctg atgttctgga ttcctgcctc cagcagtgat 60

gttgtgatga cccaagttcc actctccctg cctgtcagtc ttggagatca agcctccatc 120

tcttgcagat ctagtcagag acttgtgcac agtaatggaa acacctattt acattggttc 180

ttacagaagc caggccagtc tccaaagctc ctgatctaca cagtttccaa ccgattttct 240

ggggtcccag acaggttcag tggcagtgga tcagggacag atttcacact caagatcagc 300

agagtggagg ctgaggatct gggagtttat ttctgctctc aaagtacact tgttccgtgg 360

acgttcggtg gaggcaccaa gctggaaatc aaacgggctg atgctgcacc aactgtatcc 420

atcttcccac catccagtga gcagttaaca tctggaggtg cctcagtcgt gtgcttcttg 480

aacaacttct acccaaag 498

<210> 92
<211> 166
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence

<400> 92
Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1 5 10 15
Ser Ser Ser Asp Val Val Met Thr Gln Val Pro Leu Ser Leu Pro Val
20 25 30
Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Arg Leu
35 40 45
Val His Ser Asn Gly Asn Thr Tyr Leu His Trp Phe Leu Gln Lys Pro
50 55 60
Gly Gln Ser Pro Lys Leu Leu Ile Tyr Thr Val Ser Asn Arg Phe Ser
65 70 75 80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95
Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys
100 105 110
Ser Gln Ser Thr Leu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125
Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
130 135 140
Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
145 150 155 160
Asn Asn Phe Tyr Pro Lys
165

<210> 93
<211> 441
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH DNA sequence

<400> 93
atgaaatgca gctgggttat gttcttcctg atggcagtgg ttacaggggt caattcagag 60

gttcagctgc agcagtctgg ggcagaactt gtgaagccag gggcctcagt caagttgtcc 120

tgcacagctt ctggcttcaa aattaaagac acctatatac actgggtgat ccagaggcct 180

gcacagggcc tggaatggat tggaaggatt gatcctgcga atggtaatac tatttatggc 240

tcaaagttcc agggcaaggc cactctaaca gcggacacat catccaacac agcctacatt 300

cacctcagca gcctgacatc tggggactct gccgtctatt actgtgcggg ctacgtttgg 360

tttgcttact ggggccaagg gactctggtc actgtctctg cagctacaac aacagcccca 420

tccgtcttcc ccctggcacc a 441

<210> 94
<211> 147
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH sequence

<400> 94
Met Lys Cys Ser Trp Val Met Phe Phe Leu Met Ala Val Val Thr Gly
1   5   10   15
Val Asn Ser Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys
            20   25   30
Pro Gly Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile
        35   40   45
Lys Asp Thr Tyr Ile His Trp Val Ile Gln Arg Pro Ala Gln Gly Leu
    50   55   60
Glu Trp Ile Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly
65   70   75   80
Ser Lys Phe Gln Gly Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn
                85   90   95
Thr Ala Tyr Ile His Leu Ser Ser Leu Thr Ser Gly Asp Ser Ala Val
            100   105   110
Tyr Tyr Cys Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr
        115   120   125
Leu Val Thr Val Ser Ala Ala Thr Thr Thr Ala Pro Ser Val Phe Pro
    130   135   140
Leu Ala Pro
145

<210> 95
<211> 495
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK DNA sequence 1

<400> 95
atggattttc aggtgcagat tttcagcttc ttgctaatca gtgcctcagt tgcaatgtcc 60

agaggagaaa atgtgctcac ccagtctcca gcaatcatgt ctgcttctcc aggggagaag 120

gtcaccatga cctgcagggc caggtcaagt gtaagttcca gttacttgca ctggtaccag 180

cagaagtcag gtgcctcccc caaactctgg atttatagca catccaactt ggcttctgga 240

gtccctactc gcttcagtgg cagtgggtct gggacctctt actctctcac aatcagcagt 300

gtggaggctg aagatgctgc cacttattac tgccagcagt acagtggtta cccactcacg 360

ttcggtgctg ggaccaagct ggagctgaaa cgggctgatg ctgcaccaac tgtatccatc 420

ttcccaccat ccagtgagca gttaacatct ggaggtgcct cagtcgtgtg cttcttgaac 480

aacttctacc ccaag 495

<210> 96
<211> 165
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 1

<400> 96
Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
1   5   10   15
Val Ala Met Ser Arg Gly Glu Asn Val Leu Thr Gln Ser Pro Ala Ile
            20   25   30
Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Arg Ala Arg
        35   40   45
Ser Ser Val Ser Ser Ser Tyr Leu His Trp Tyr Gln Gln Lys Ser Gly
    50   55   60

Ala Ser Pro Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly
65 70 75 80
Val Pro Thr Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu
85 90 95
Thr Ile Ser Ser Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln
100 105 110
Gln Tyr Ser Gly Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu
115 120 125
Leu Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser
130 135 140
Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn
145 150 155 160
Asn Phe Tyr Pro Lys
165

<210> 97
<211> 499
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK DNA sequence 2

<400> 97
atgaagttgc ctgttaggct gttggtgctg atgttctgga ttcctgcctc cagcagtgat 60

gttgtgatga cccaagttcc actctccctg cctgtcagtc ttggagatca agcctccatc 120

tcttgcagat ctagtcagag acttgtgcac agtaatggaa acacctattt acattggttc 180

ttacagaagc caggccagtc tccaaagctc ctgatctaca cagtttccaa ccgattttct 240

ggggtcccag acaggttcag tggcagtgga tcagggacag atttcacact caagatcagc 300

agagtggagg ctgaggatct gggagtttat ttctgctctc aaagtacact tgttccgtgg 360

acgttcggtg gaggcaccaa gctggaaatc aaacgggctg atgctgcacc aactgtatcc 420

atcttcccac catccagtga gcagttaaca tctggaggtg cctcagtcgt gtgcttcttg 480

aacaacttct accccaaag 499

<210> 98
<211> 166
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 2

<400> 98
Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1 5 10 15
Ser Ser Ser Asp Val Val Met Thr Gln Val Pro Leu Ser Leu Pro Val
20 25 30
Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Arg Leu
35 40 45
Val His Ser Asn Gly Asn Thr Tyr Leu His Trp Phe Leu Gln Lys Pro
50 55 60
Gly Gln Ser Pro Lys Leu Leu Ile Tyr Thr Val Ser Asn Arg Phe Ser
65 70 75 80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95
Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys
100 105 110
Ser Gln Ser Thr Leu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125

Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
130 135 140
Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
145 150 155 160
Asn Asn Phe Tyr Pro Lys
165

<210> 99
<211> 438
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH DNA sequence 1

<400> 99
atgaaatgca gctggattat gttcttcctg atggcagtgg ttacaggggt caattcagag 60

gttcaggtgc agcagtctgg ggcagagctt gtgaagccag gggcctcagt caagttgtcc 120

tgcacagctt ctggcttcaa aattaaggac acctatatac actggttaaa acagaggcct 180

gaacagggcc tggaatggat tggaaggatt gatcctgcga atggtaatac tatatatggc 240

tcaaagttcc agggcaaggc cactataaca gcagacacat catccaacac agcctacatt 300

caactcagca gcctgacatc tggggacact gccgtctatt tttgtgcggg ctacgtttgg 360

tttgcttact ggggccaagg gactctggtc actgtctctg cagccaaaac gacaccccca 420

tccgtcttcc ccctggcc 438

<210> 100
<211> 146
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 1

<400> 100
Met Lys Cys Ser Trp Ile Met Phe Phe Leu Met Ala Val Val Thr Gly
1 5 10 15
Val Asn Ser Glu Val Gln Val Gln Gln Ser Gly Ala Glu Leu Val Lys
20 25 30
Pro Gly Ala Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile
35 40 45
Lys Asp Thr Tyr Ile His Trp Leu Lys Gln Arg Pro Glu Gln Gly Leu
50 55 60
Glu Trp Ile Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly
65 70 75 80
Ser Lys Phe Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn
85 90 95
Thr Ala Tyr Ile Gln Leu Ser Ser Leu Thr Ser Gly Asp Thr Ala Val
100 105 110
Tyr Phe Cys Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr
115 120 125
Leu Val Thr Val Ser Ala Ala Lys Thr Thr Pro Pro Ser Val Phe Pro
130 135 140
Leu Ala
145

<210> 101
<211> 453
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH DNA sequence 2

<400> 101
atggctgtct tggggctgct cttctgcctg gtgacattcc caagctgtgt cctgtcccag 60

gtgcagctga agcagtcagg acctagccta gtgcagccct cacagagcct gtccataacc 120

tgcacagtct ctggtttctc attaactagc tatggtgtac actgggttcg ccagtctcca 180

ggaaagggtc tggagtggct gggagtgata tggagaggtg gaagcacaga ctacaatgca 240

gctttcatgt ccagactgag catcaccaag gacaactcca agagccaagt tttctttaaa 300

atgaacagtc tgcaagctga tgacactgcc atatactact gtgccaaaaa ttgggagtat 360

gatggttact gggggtttgc ttactggggc caagggactc tggtcactgt ctctgcagag 420

agtcagtcct tcccaaatgt cttccccctc gaa 453

<210> 102
<211> 151
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2

<400> 102
Met Ala Val Leu Gly Leu Leu Phe Cys Leu Val Thr Phe Pro Ser Cys
1 5 10 15
Val Leu Ser Gln Val Gln Leu Lys Gln Ser Gly Pro Ser Leu Val Gln
20 25 30
Pro Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu
35 40 45
Thr Ser Tyr Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu
50 55 60
Glu Trp Leu Gly Val Ile Trp Arg Gly Gly Ser Thr Asp Tyr Asn Ala
65 70 75 80
Ala Phe Met Ser Arg Leu Ser Ile Thr Lys Asp Asn Ser Lys Ser Gln
85 90 95
Val Phe Phe Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Ile Tyr
100 105 110
Tyr Cys Ala Lys Asn Trp Glu Tyr Asp Gly Tyr Trp Gly Phe Ala Tyr
115 120 125
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Glu Ser Gln Ser Phe
130 135 140
Pro Asn Val Phe Pro Leu Glu
145 150

<210> 103
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH variable domain sequence 2

<400> 103
Gln Val Gln Leu Lys Gln Ser Gly Pro Ser Leu Val Gln Pro Ser Gln
1 5 10 15
Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Ser Tyr
20 25 30
Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Leu
35 40 45
Gly Val Ile Trp Arg Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Met
50 55 60

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Ser Arg Leu Ser Ile Thr Lys Asp Asn Ser Lys Ser Gln Val Phe Phe
65 70 75 80
Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Ile Tyr Tyr Cys Ala
85 90 95
Lys Asn Trp Glu Tyr Asp Gly Tyr Trp Gly Phe Ala Tyr Trp Gly Gln
100 105 110
Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 104
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2 CDR1

<400> 104
Gly Phe Ser Leu Thr Ser Tyr Gly
1 5

<210> 105
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2 CDR2

<400> 105
Ile Trp Arg Gly Gly Ser Thr
1 5

<210> 106
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2 CDR3

<400> 106
Ala Lys Asn Trp Glu Tyr Asp Gly Tyr Trp Gly Phe Ala Tyr
1 5 10

<210> 107
<211> 417
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH DNA sequence 3

<400> 107
atggcagtgg ttacaggggt caattcagag gttcagctgc agcagtctgg ggctgagctt 60

gtgaggccag gggcctcagt caagttgtcc tgcacagctt ctggctttaa cattaaagac 120

gactatatgc actgggtgaa gcagaggcct gaacagggcc tggagtggat tggaaggatt 180

gatcctgcga atggtaatac taaatatgcc ccgaagttcc aggacaaggc cactataact 240

gcagacacat cctccaacac agcctacctg cagctcagca gcctgacatc tgaggacact 300

gccgtctatt actgtgctag aagctatgat ggttctctgg gggactactg gggccaaggc 360

accactctca cagtctcctc agagagtcag tccttcccaa atgtcttccc cctcgag 417

<210> 108
<211> 139
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 3

<400> 108
Met Ala Val Val Thr Gly Val Asn Ser Glu Val Gln Leu Gln Gln Ser
1 5 10 15
Gly Ala Glu Leu Val Arg Pro Gly Ala Ser Val Lys Leu Ser Cys Thr
20 25 30
Ala Ser Gly Phe Asn Ile Lys Asp Asp Tyr Met His Trp Val Lys Gln
35 40 45
Arg Pro Glu Gln Gly Leu Glu Trp Ile Gly Arg Ile Asp Pro Ala Asn
50 55 60
Gly Asn Thr Lys Tyr Ala Pro Lys Phe Gln Asp Lys Ala Thr Ile Thr
65 70 75 80
Ala Asp Thr Ser Ser Asn Thr Ala Tyr Leu Gln Leu Ser Ser Leu Thr
85 90 95
Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ser Tyr Asp Gly Ser
100 105 110
Leu Gly Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Glu
115 120 125
Ser Gln Ser Phe Pro Asn Val Phe Pro Leu Glu
130 135

<210> 109
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH variable domain sequence 3

<400> 109
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Asp
20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Lys Tyr Ala Pro Lys Phe
50 55 60
Gln Asp Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Ser Tyr Asp Gly Ser Leu Gly Asp Tyr Trp Gly Gln Gly Thr
100 105 110
Thr Leu Thr Val Ser Ser
115

<210> 110
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 3 CDR1

<400> 110
Gly Phe Asn Ile Lys Asp Asp Tyr
1 5

<210> 111

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

<220>
<223> Antibody 131B4 VH sequence 3 CDR2

<400> 111
Ile Asp Pro Ala Asn Gly Asn Thr
1 5

<210> 112
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 3 CDR3

<400> 112
Ala Arg Ser Tyr Asp Gly Ser Leu Gly Asp Tyr
1 5 10

<210> 113
<211> 498
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK DNA sequence

<400> 113
atgaagttgc ctgttaggct gttggtgctg atgttctgga ttcctgcttc cagcagtgat 60

gctgtgttga cccaaactcc actctccctg cctgtcagtc ttggagatca agcctccatc 120

tcttgcacat ctagtcagag ccttgtacac agtaatggaa acacctattt acattggtac 180

ctgcagaagc caggccagtc tccaaagctc ctgatctaca aagtttccga ccgattttct 240

ggggtcccag acaggttcag tggcagtgga tcaggaacag atttcacact catgatcacc 300

agagtggagg ctgaggatct gggagtttat ttctgctctc aaagttcact tgttccgtgg 360

acgttcggtg gaggcaccaa gctggaagtc aaacgggctg atgctgcacc aactgtatcc 420

atcttcccac catccagtga gcagttaaca tctggaggtg cctcagtcgt gtgcttcttg 480

aacaacttct accccaaa 498

<210> 114
<211> 166
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK sequence

<400> 114
Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1 5 10 15
Ser Ser Ser Asp Ala Val Leu Thr Gln Thr Pro Leu Ser Leu Pro Val
20 25 30
Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Thr Ser Ser Gln Ser Leu
35 40 45
Val His Ser Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro
50 55 60

Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser
65 70 75 80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95
Leu Met Ile Thr Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys
100 105 110
Ser Gln Ser Ser Leu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125
Glu Val Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
130 135 140
Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
145 150 155 160
Asn Asn Phe Tyr Pro Lys
165

<210> 115
<211> 452
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH DNA sequence 1

<400> 115
atggctgttt tggggctgct cttctgcctg gtgacattcc caagctgtgt cctatcccag 60

gtgcagctga agcagtcaag acctggccca gtgcagccct cacagagcct gtccatcacc 120

tgcacagtct ctggtttctc attacctaac tatggtgtac actgggttcg ccagcctcca 180

ggaaagggtc tggagtggct gggagtgata tggagtggtg gaagcacaga ctataatgca 240

gctttcaaat ccagactgag catcagcaag gacaactcca agagccaagt tttctttaaa 300

atgaacagtc tgcaagctga tgacacagcc atatactact gtgccagaaa tttttatagt 360

aagtacgact atgctatgga ctactggggt caaggaacct cagtcaccgt ctcctcagcc 420

aaaacaacac ccccatccgt cttccccctg gc 452

<210> 116
<211> 150
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1

<400> 116
Met Ala Val Leu Gly Leu Leu Phe Cys Leu Val Thr Phe Pro Ser Cys
1 5 10 15
Val Leu Ser Gln Val Gln Leu Lys Gln Ser Arg Pro Gly Pro Val Gln
20 25 30
Pro Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu
35 40 45
Pro Asn Tyr Gly Val His Trp Val Arg Gln Pro Pro Gly Lys Gly Leu
50 55 60
Glu Trp Leu Gly Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala
65 70 75 80
Ala Phe Lys Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln
85 90 95
Val Phe Phe Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Ile Tyr
100 105 110
Tyr Cys Ala Arg Asn Phe Tyr Ser Lys Tyr Asp Tyr Ala Met Asp Tyr
115 120 125
Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro
130 135 140

Pro Ser Val Phe Pro Leu
145 150

<210> 117
<211> 411
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH DNA sequence 2

<400> 117
atgttcttct tggtagcaac agctacaggt gtccactccc aggtccaact gcagcagcct 60

gggtctgtgc tggtgaggcc tggagcttca gtgaagctgt cctgcaaggc ttctggctac 120

acattcacca gctactggat gcactgggtg aagcagaggc cgggacaagg ccttgagtgg 180

attggaaata ttaatcctaa tagtggtagt actaactaca atgagaagtt caagggcaag 240

gccacactga ctgtagacac atcctccagc acagcctaca tggatctcag cagcctgaca 300

tctgaggact ctgcggtcta ttactgtgca agactgggtg actactgggg ccaaggcacc 360

actctcacag tctcctcaaa gagtcagtcc tccccatccg tcttcccccc g 411

<210> 118
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 2

<400> 118
Met Phe Phe Leu Val Ala Thr Ala Thr Gly Val His Ser Gln Val Gln
1 5 10 15
Leu Gln Gln Pro Gly Ser Val Leu Val Arg Pro Gly Ala Ser Val Lys
20 25 30
Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr Trp Met His
35 40 45
Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Asn Ile
50 55 60
Asn Pro Asn Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys
65 70 75 80
Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr Ala Tyr Met Asp Leu
85 90 95
Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Leu
100 105 110
Gly Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Lys Ser
115 120 125
Gln Ser Ser Pro Ser Val Phe Pro Leu
130 135

<210> 119
<211> 435
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH DNA sequence 3

<400> 119
gctgtcttgg ggctgctctt ctgcctggtt gcatttccaa gctgtgtcct gtcccaggtg 60

cagctgaagg agtcaggacc tggcctggtg gcgccctcac agagcctgtc catcacttgc 120

actgtctctg ggttttcatt aaccagctat ggtgtacact gggttcgcca gcctccagga 180

aagggtctgg agtggctggg agtaatatgg gctggtggaa gcacaaatta taattcggct 240

ctcatgtcca gactgagcat cagcaaagac aactccaaga gccaagtttt cttaaaaatg 300

aacagtctgc aaactgatga cacagccatg tactactgtg ccagagatag taactacttt 360

gactactggg gccaaggcac cactctcaca gtctcctcag agagtcagtc cttcccaaat 420

gtcttccccc tcgta 435

<210> 120
<211> 145
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3

<400> 120
Ala Val Leu Gly Leu Leu Phe Cys Leu Val Ala Phe Pro Ser Cys Val
1 5 10 15
Leu Ser Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro
20 25 30
Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr
35 40 45
Ser Tyr Gly Val His Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu
50 55 60
Trp Leu Gly Val Ile Trp Ala Gly Gly Ser Thr Asn Tyr Asn Ser Ala
65 70 75 80
Leu Met Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val
85 90 95
Phe Leu Lys Met Asn Ser Leu Gln Thr Asp Asp Thr Ala Met Tyr Tyr
100 105 110
Cys Ala Arg Asp Ser Asn Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
115 120 125
Leu Thr Val Ser Ser Glu Ser Gln Ser Phe Pro Asn Val Phe Pro Leu
130 135 140
Val
145

<210> 121
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH variable domain sequence 3

<400> 121
Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser Gln
1 5 10 15
Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Ser Tyr
20 25 30
Gly Val His Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu
35 40 45
Gly Val Ile Trp Ala Gly Gly Ser Thr Asn Tyr Asn Ser Ala Leu Met
50 55 60
Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Leu
65 70 75 80
Lys Met Asn Ser Leu Gln Thr Asp Asp Thr Ala Met Tyr Tyr Cys Ala
85 90 95
Arg Asp Ser Asn Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr
100 105 110
Val Ser Ser
115

<210> 122
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3 CDR1

<400> 122
Gly Phe Ser Leu Thr Ser Tyr Gly
1 5

<210> 123
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3 CDR2

<400> 123
Ile Trp Ala Gly Gly Ser Thr
1 5

<210> 124
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3 CDR3

<400> 124
Ala Arg Asp Ser Asn Tyr Phe Asp Tyr
1 5

<210> 125
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK DNA sequence

<400> 125
atggattttc aggtgcagat tttcagcttc ctgctaatca gtgcctcagt cataatgtcc 60

agaggagaaa atgttctcac ccagtctcca gcaatcatgt ctgcatctcc aggggaaaag 120

gtcaccatga cctgcagtgc cagctcaagt gtaagttaca tgcactggta ccagcagaag 180

tcaagcacct cccccaaact ctggatttat gacacatcca aactggcttc tggagtccca 240

ggtcgcttca gtggcagtgg gtctggaaac tcttactctc tcacgatcag cagcatggag 300

gctgaagatg ttgccactta ttactgtttt caggggagtg ggtacccact cacgttcggc 360

tcggggacaa agttggaaat aaaacgggct gatgctgcac caactgtatc catcttccca 420

ccatccagtg agcagttaac atctggaggt gcctcagtcg tgtgcttctt gaacaacttc 480

taccccaaa 489

<210> 126
<211> 163
<212> PRT

<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence

<400> 126
Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
1 5 10 15
Val Ile Met Ser Arg Gly Glu Asn Val Leu Thr Gln Ser Pro Ala Ile
20 25 30
Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser
35 40 45
Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Ser Thr Ser
50 55 60
Pro Lys Leu Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro
65 70 75 80
Gly Arg Phe Ser Gly Ser Gly Ser Gly Asn Ser Tyr Ser Leu Thr Ile
85 90 95
Ser Ser Met Glu Ala Glu Asp Val Ala Thr Tyr Tyr Cys Phe Gln Gly
100 105 110
Ser Gly Tyr Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
115 120 125
Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
130 135 140
Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
145 150 155 160
Tyr Pro Lys

<210> 127
<211> 453
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH DNA sequence

<400> 127
atggctgtct tggggctgct cttctgcctg gtgacattcc caagctgtgt cctatcccag 60

gtgcagctga agcagtcagg acctggccta gtgcagccct cacagagcct gtccatcacc 120

tgcacagtct ctggtttctc attaactagc tatggtgtac actgggttcg ccagtctcca 180

ggaaagggtc tggagtggct gggagtgata tggagtggtg gaagcacaga ctataatgca 240

gctttcatat ccagactgag catcagcaag gacaattcca agagccaagt tttctttaaa 300

atgaacagtc tgcaagctga tgacacagcc atatattact gtgccagatc ttatgattac 360

gacgggaggg gttactttga ctactggggc caaggcacca ctctcacagt ctcctcagag 420

agtcagtcct tcccaaatgt cttccccctc gta 453

<210> 128
<211> 151
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence

<400> 128
Met Ala Val Leu Gly Leu Leu Phe Cys Leu Val Thr Phe Pro Ser Cys
1 5 10 15
Val Leu Ser Gln Val Gln Leu Lys Gln Ser Gly Pro Gly Leu Val Gln
20 25 30

Pro Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu
35 40 45
Thr Ser Tyr Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu
50 55 60
Glu Trp Leu Gly Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala
65 70 75 80
Ala Phe Ile Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln
85 90 95
Val Phe Phe Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Ile Tyr
100 105 110
Tyr Cys Ala Arg Ser Tyr Asp Tyr Asp Gly Arg Gly Tyr Phe Asp Tyr
115 120 125
Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Glu Ser Gln Ser Phe
130 135 140
Pro Asn Val Phe Pro Leu Val
145 150

<210> 129
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH variable domain sequence

<400> 129
Gln Val Gln Leu Lys Gln Ser Gly Pro Gly Leu Val Gln Pro Ser Gln
1 5 10 15
Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Ser Tyr
20 25 30
Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Leu
35 40 45
Gly Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Ile
50 55 60
Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Phe
65 70 75 80
Lys Met Asn Ser Leu Gln Ala Asp Asp Thr Ala Ile Tyr Tyr Cys Ala
85 90 95
Arg Ser Tyr Asp Tyr Asp Gly Arg Gly Tyr Phe Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 130
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence CDR1

<400> 130
Gly Phe Ser Leu Thr Ser Tyr Gly
1 5

<210> 131
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence CDR2

<400> 131
Ile Trp Ser Gly Gly Ser Thr
1 5

<210> 132

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

<220>
<223> Antibody 131H1 VH sequence CDR3

<400> 132
Ala Arg Ser Tyr Asp Tyr Asp Gly Arg Gly Tyr Phe Asp Tyr
1 5 10

<210> 133
<211> 486
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK DNA sequence 1

<400> 133
atgagtgtgc tcactcaggt cctggggttg ctgctgctgt ggcttacagg tgccagatgt 60

gacatccaga tgactcagtc tccagcctcc ctgtctgcat ctgtgggaga aactgtcacc 120

atcacatgtc gagcaagtga gaatgtttac agatatttag catggtatca gcagagacag 180

ggaaaatctc ctcagctcct ggtctatagt gcaaaaacct tagcagaagg tgtgccatca 240

aggttcagtg gcagtggatc aggcacacag ttttctctga agatcaacac cctgcagcct 300

gaagattttg ggacttatta ctgtcaacat cattataata ctcctctcac gttcggtgct 360

gggaccaagc tggagctgaa acgggctgat gctgcaccaa ctgtatccat cttcccacca 420

tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480

cccaaa 486

<210> 134
<211> 162
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 1

<400> 134
Met Ser Val Leu Thr Gln Val Leu Gly Leu Leu Leu Leu Trp Leu Thr
1 5 10 15
Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser
20 25 30
Ala Ser Val Gly Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn
35 40 45
Val Tyr Arg Tyr Leu Ala Trp Tyr Gln Gln Arg Gln Gly Lys Ser Pro
50 55 60
Gln Leu Leu Val Tyr Ser Ala Lys Thr Leu Ala Glu Gly Val Pro Ser
65 70 75 80
Arg Phe Ser Gly Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Asn
85 90 95
Thr Leu Gln Pro Glu Asp Phe Gly Thr Tyr Tyr Cys Gln His His Tyr
100 105 110
Asn Thr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
115 120 125
Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140
Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160

Pro Lys

<210> 135
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK variable domain sequence 1

<400> 135
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 Ala Ser Glu Asn Val Tyr Arg Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Arg Gln Gly Lys Ser Pro Gln Leu Leu Val
35 40 45
Tyr Ser Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Asn Thr Leu Gln Pro
65 70 75 80
Glu Asp Phe Gly Thr Tyr Tyr Cys Gln His His Tyr Asn Thr Pro Leu
85 90 95
Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 136
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 1 CDR1

<400> 136
Glu Asn Val Tyr Arg Tyr
1 5

<210> 137
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 1 CDR2

<400> 137
Ser Ala Lys
1

<210> 138
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 1 CDR3

<400> 138
Gln His His Tyr Asn Thr Pro Leu Thr
1 5

<210> 139
<211> 486
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK DNA sequence 2

<400> 139
atggttctta tatggctcct gctatgggta tctggtacct gtggggacat tgtgatgtca 60

cagtctccat cctccctggc tgtgtcagca ggagagaagg tcactatgag ctgcaaatcc 120

agtcagagtc tgttcaacag taaaacccga aagaactact tggcttggtt tcagcaaaaa 180

ccagggcagt ctcctgaact gctgatctac tgggcatcca ctaggaaatc tggggtccct 240

gatcgcttca caggcagtgg atctgggaca gatttcactc tcaccatcag cagtgtgcag 300

gctgaagacc tggcagttta ttactgcaag caatcttata atctgtggac gttcggcgga 360

ggcaccaagc tggaaatcaa acgggctgat gctgcaccaa ctgtatccat cttcccacca 420

tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480

cccaaa 486

<210> 140
<211> 162
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 2

<400> 140
Met Val Leu Ile Trp Leu Leu Leu Trp Val Ser Gly Thr Cys Gly Asp
1 5 10 15
Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly Glu
20 25 30
Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser Lys
35 40 45
Thr Arg Lys Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Ser
50 55 60
Pro Glu Leu Leu Ile Tyr Trp Ala Ser Thr Arg Lys Ser Gly Val Pro
65 70 75 80
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
85 90 95
Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln Ser
100 105 110
Tyr Asn Leu Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125
Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln
130 135 140
Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr
145 150 155 160
Pro Lys

<210> 141
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK variable domain sequence 2

<400> 141
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1 5 10 15
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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Lys Thr Arg Lys Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln
35 40 45
Ser Pro Glu Leu Leu Ile Tyr Trp Ala Ser Thr Arg Lys 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 Tyr Cys Lys Gln
85 90 95
Ser Tyr Asn Leu Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 142
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 2 CDR1

<400> 142
Gln Ser Leu Phe Asn Ser Lys Thr Arg Lys Asn Tyr
1 5 10

<210> 143
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 2 CDR2

<400> 143
Trp Ala Ser
1

<210> 144
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 2 CDR3

<400> 144
Lys Gln Ser Tyr Asn Leu Trp Thr
1 5

<210> 145
<211> 440
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH DNA sequence

<400> 145
tgagctgggt tttccttgtc cttattttaa aaggtgtcca gtgtgaagtg aagctggtgg 60

agtctggggg aggcttagtg aagcctggag ggtccctgaa actctcctgt gcagcctctg 120

gattcacttt cagtaactat gccatgtctt gggttcgcca gaatccggcg aagaggctgg 180

agtgggtcgc aaccattagt agtggtggtg ctaatattta ctatccagac agtgtgaagg 240

gccgattcat catctccaga gacaatgcca ggaacaccct gtacctgcaa atgagcagtc 300

tgaggtctga ggacacggcc atgtattact gtgcaagagg cgactatttt aaccacttct 360

ggtttgctta ctggggccaa gggactcttg tcactgtctc tgcagccaaa acaacagccc 420

catcggtctt ccccctggca 440

<210> 146
<211> 146
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH sequence

<400> 146
Ser Trp Val Phe Leu Val Leu Ile Leu Lys Gly Val Gln Cys Glu Val
1 5 10 15
Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly Ser Leu
20 25 30
Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr Ala Met
35 40 45
Ser Trp Val Arg Gln Asn Pro Ala Lys Arg Leu Glu Trp Val Ala Thr
50 55 60
Ile Ser Ser Gly Gly Ala Asn Ile Tyr Tyr Pro Asp Ser Val Lys Gly
65 70 75 80
Arg Phe Ile Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr Leu Gln
85 90 95
Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys Ala Arg
100 105 110
Gly Asp Tyr Phe Asn His Phe Trp Phe Ala Tyr Trp Gly Gln Gly Thr
115 120 125
Leu Val Thr Val Ser Ala Ala Lys Thr Thr Ala Pro Ser Val Phe Pro
130 135 140
Leu Ala
145

<210> 147
<211> 481
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK DNA sequence

<400> 147
atgaagttgc ctgttaggct gttggtgctg atgttctgga ttcctgcttc cagcagtgat 60

gttttgatga cccaaactcc actctccctg cctgtcagtc ttggagatca agcctccatc 120

tcttgtagat cgagtcagag cattgtacat agtaatggaa acacctattt agaatggtac 180

ctgcagaaac caggccagtc tccaaagttc ctgatctaca aagtttccaa ccgattttca 240

ggggtcccag acaggttcag tggcagtgga tcagggacag atttcacact caagatcaac 300

agagtggagg ctgaggatct gggaatttat tactgctttc agggttcaca tgttccgtgg 360

acgttcggtg gaggcaccaa gctggaaatc aaacgggctg atgctgcacc aactgtatcc 420

atcttcccac catccagtga gcagttaaca tctggaggtg cctcagtcgt gtgcttcttg 480

a 481

<210> 148
<211> 160
<212> PRT

<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK sequence

<400> 148
Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1 5 10 15
Ser Ser Ser Asp Val Leu Met Thr Gln Thr Pro Leu Ser Leu Pro Val
20 25 30
Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
35 40 45
Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro
50 55 60
Gly Gln Ser Pro Lys Phe Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser
65 70 75 80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95
Leu Lys Ile Asn Arg Val Glu Ala Glu Asp Leu Gly Ile Tyr Tyr Cys
100 105 110
Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125
Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
130 135 140
Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
145 150 155 160

<210> 149
<211> 456
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VH DNA sequence

<400> 149
atgaactttg ggttgagatt ggttttcctt gtccttgttt taaaaggtgt ccagtgtgag 60

gtgaagctag tggagtctgg aggaggctta gtgaagcctg gagggtccct gaaactctcc 120

tgtgcagcct ctggattcac tttcagtaac tatgccatgt cttgggttcg ccagactccg 180

gcgaagaggc tggagtgggt cacaaccatt agtagtggtg gtggtaacat ctactataca 240

gacagtgtga agggccgatt caccgtctcc agagacaatg ccaggaacac cctgtacctg 300

caaatgagca gtctgaggtc tgaggacacg gccatgtatt actgtgcaag aggcgactat 360

agtaactact tctggtttgc ttactggggc caagggactc tggtctctgt ctctgaagcc 420

aaaacaacag ccccatcggt cttccccctg gcacct 456

<210> 150
<211> 152
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VH sequence

<400> 150
Met Asn Phe Gly Leu Arg Leu Val Phe Leu Val Leu Val Leu Lys Gly
1 5 10 15
Val Gln Cys Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys
20 25 30

Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        35   40   45
Ser Asn Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Ala Lys Arg Leu
    50   55   60
Glu Trp Val Thr Thr Ile Ser Ser Gly Gly Gly Asn Ile Tyr Tyr Thr
65   70   75   80
Asp Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Arg Asn
                85   90   95
Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met
            100   105   110
Tyr Tyr Cys Ala Arg Gly Asp Tyr Ser Asn Tyr Phe Trp Phe Ala Tyr
        115   120   125
Trp Gly Gln Gly Thr Leu Val Ser Val Ser Glu Ala Lys Thr Thr Ala
    130   135   140
Pro Ser Val Phe Pro Leu Ala Pro
145   150

<210> 151
<211> 498
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK DNA sequence

<400> 151
atgaagttgc ctgttaggct gttggtgctg atgttctgga ttcctgcttc cagcagtgat 60

gttttgatga cccaaactcc actctccctg cctgtcagtc ttggagatca agcctccatc 120

tcttgcagat ctagtcagag cattgtacat agtaatggaa acacctattt agaatggtac 180

ctgcagaaac caggccagtc tccaaagctc ctgatctaca aagtttccaa ccgattttct 240

ggggtcccag acaggttcag tggcagtgga tcagggacag atttcacact caagatcagc 300

agagtggagg ctgaggatct gggagtttat tactgctttc aaggttcaca tgttccgtgg 360

acgttcggtg gaggcaccaa gctggaaatc aaacgggctg atgctgcacc aactgtatcc 420

atcttcccac catccaggga gcagttaaca tctggaggtg cctcagtcgt gtgcttcttg 480

aacaacttct acccaaaa 498

<210> 152
<211> 166
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK sequence

<400> 152
Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1   5   10   15
Ser Ser Ser Asp Val Leu Met Thr Gln Thr Pro Leu Ser Leu Pro Val
            20   25   30
Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
        35   40   45
Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro
    50   55   60
Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser
65   70   75   80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
                85   90   95
Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys
            100   105   110

Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu
        115   120   125
Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
    130   135   140
Ser Arg Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu
145   150   155   160
Asn Asn Phe Tyr Pro Lys
                165

<210> 153
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence CDR1 Chothia

<400> 153
Gly Tyr Thr Phe Thr Asn Tyr
1   5

<210> 154
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence CDR2 Chothia

<400> 154
Asn Thr Tyr Ser Gly Val
1   5

<210> 155
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VH sequence CDR3 Chothia

<400> 155
Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1   5   10

<210> 156
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence CDR1 Chothia

<400> 156
Lys Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu
1   5   10   15
Val

<210> 157
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence CDR2 Chothia

<400> 157

Trp Ala Ser Thr Arg Gly Ser
1 5

<210> 158
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 107C6 VK sequence CDR3 Chothia

<400> 158
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 159
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence CDR1 Chothia

<400> 159
Gly Tyr Thr Phe Thr Asn Tyr
1 5

<210> 160
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence CDR2 Chothia

<400> 160
Asn Thr Tyr Ser Gly Val
1 5

<210> 161
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VH sequence CDR3 Chothia

<400> 161
Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1 5 10

<210> 162
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK sequence CDR1 Chothia

<400> 162
Lys Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15
Val

<210> 163
<211> 7
<212> PRT

<213> Artificial Sequence

<220>
<223> ANtibody 108F8 VK sequence CDR2 Chothia

<400> 163
Trp Ala Ser Thr Arg Gly Ser
1 5

<210> 164
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 108F8 VK sequence CDR3 Chothia

<400> 164
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 165
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH sequence CDR1 Chothia

<400> 165
Gly Phe Lys Ile Lys Asp Thr
1 5

<210> 166
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH sequence CDR2 Chothia

<400> 166
Asp Pro Ala Asn Gly Asn
1 5

<210> 167
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VH sequence CDR3 Chothia

<400> 167
Tyr Val Trp Phe Ala Tyr
1 5

<210> 168
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence CDR1 Chothia

<400> 168
Arg Ser Ser Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 169
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence CDR2 Chothia

<400> 169
Thr Val Ser Asn Arg Phe Ser
1 5

<210> 170
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 109A6 VK sequence CDR3 Chothia

<400> 170
Ser Gln Ser Thr Leu Val Pro Trp Thr
1 5

<210> 171
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH sequence CDR1 Chothia

<400> 171
Gly Phe Lys Ile Lys Asp Thr
1 5

<210> 172
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 CH sequence CDR2

<400> 172
Asp Pro Ala Asn Gly Asn
1 5

<210> 173
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VH sequence CDR3 Chothia

<400> 173
Tyr Val Trp Phe Ala Tyr
1 5

<210> 174
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 1 CDR1 Chothia

<400> 174
Arg Ala Arg Ser Ser Val Ser Ser Ser Tyr Leu His
1 5 10

<210> 175
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 1 CDR2 Chothia

<400> 175
Ser Thr Ser Asn Leu Ala Ser
1 5

<210> 176
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 1 CDR3 Chothia

<400> 176
Gln Gln Tyr Ser Gly Tyr Pro Leu Thr
1 5

<210> 177
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 2 CDR1 Chothia

<400> 177
Arg Ser Ser Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 178
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 2 CDR2 Chothia

<400> 178
Thr Val Ser Asn Arg Phe Ser
1 5

<210> 179
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 111A6 VK sequence 2 CDR3 Chothia

<400> 179
Ser Gln Ser Thr Leu Val Pro Trp Thr
1 5

<210> 180
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 1 CDR1 Chothia

<400> 180
Gly Phe Lys Ile Lys Asp Thr
1 5

<210> 181
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 1 CDR2 Chothia

<400> 181
Asp Pro Ala Asn Gly Asn
1 5

<210> 182
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 1 CDR3 Chothia

<400> 182
Tyr Val Trp Phe Ala Tyr
1 5

<210> 183
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2 CDR1 Chothia

<400> 183
Gly Phe Ser Leu Thr Ser Tyr
1 5

<210> 184
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2 CDR2 Chothia

<400> 184
Trp Arg Gly Gly Ser
1 5

<210> 185
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 2 CDR3 Chothia

<400> 185
Asn Trp Glu Tyr Asp Gly Tyr Trp Gly Phe Ala Tyr
1 5 10

<210> 186
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 3 CDR1 Chothia

<400> 186
Gly Phe Asn Ile Lys Asp Asp
1 5

<210> 187
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 3 CDR2 Chothia

<400> 187
Asp Pro Ala Asn Gly Asn
1 5

<210> 188
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH sequence 3 CDR3 Chothia

<400> 188
Ser Tyr Asp Gly Ser Leu Gly Asp Tyr
1 5

<210> 189
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK sequence CDR1 Chothia

<400> 189
Thr Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 190
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK sequence CDR2 Chothia

<400> 190
Lys Val Ser Asp Arg Phe Ser
1 5

<210> 191

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

<220>
<223> Antibody 131B4 VK sequence CDR3 Chothia

<400> 191
Ser Gln Ser Ser Leu Val Pro Trp Thr
1 5

<210> 192
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR1 Chothia

<400> 192
Gly Phe Ser Leu Pro Asn Tyr
1 5

<210> 193
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR2 Chothia

<400> 193
Trp Ser Gly Gly Ser
1 5

<210> 194
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR3 Chothia

<400> 194
Asn Phe Tyr Ser Lys Tyr Asp Tyr Ala Met Asp Tyr
1 5 10

<210> 195
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 1 CDR3 Chothia

<400> 195
Gly Tyr Thr Phe Thr Ser Tyr
1 5

<210> 196
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 2 CDR2 Chothia

<400> 196

Asn Pro Asn Ser Gly Ser
1 5

<210> 197
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 2 CDR3 Chothia

<400> 197
Leu Gly Asp Tyr
1

<210> 198
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3 CDR1 Chothia

<400> 198
Gly Phe Ser Leu Thr Ser Tyr
1 5

<210> 199
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3 CDR2 Chothia

<400> 199
Trp Ala Gly Gly Ser
1 5

<210> 200
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH sequence 3 CDR3 Chothia

<400> 200
Asp Ser Asn Tyr Phe Asp Tyr
1 5

<210> 201
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR1 Chothia

<400> 201
Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 202
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR2 Chothia

<400> 202
Asp Thr Ser Lys Leu Ala Ser
1 5

<210> 203
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR3 Chothia

<400> 203
Phe Gln Gly Ser Gly Tyr Pro Leu Thr
1 5

<210> 204
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence CDR1 Chothia

<400> 204
Gly Phe Ser Leu Thr Ser Tyr
1 5

<210> 205
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence CDR2 Chothia

<400> 205
Trp Ser Gly Gly Ser
1 5

<210> 206
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence CDR3 Chothia

<400> 206
Ser Tyr Asp Tyr Asp Gly Arg Gly Tyr Phe Asp Tyr
1 5 10

<210> 207
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 1 CDR1 Chothia

<400> 207
Arg Ala Ser Glu Asn Val Tyr Arg Tyr Leu Ala
1 5 10

<210> 208

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

<220>
<223> Antibody 131H1 VK sequence 1 CDR2 Chothia

<400> 208
Ser Ala Lys Thr Leu Ala Glu
1 5

<210> 209
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK sequence 1 CDR3 Chothia

<400> 209
Gln His His Tyr Asn Thr Pro Leu Thr
1 5

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

<220>
<223> Antibody 131H1 VK sequence 2 CDR1 Chothia

<400> 210
Lys Ser Ser Gln Ser Leu Phe Asn Ser Lys Thr Arg Lys Asn Tyr Leu
1 5 10 15
Ala

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

<220>
<223> Antibody 131H1 VK sequence 2 CDR2 Chothia

<400> 211
Trp Ala Ser Thr Arg Lys Ser
1 5

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

<220>
<223> Antibody 131H1 VK sequence 2 CDR3 Chothia

<400> 212
Lys Gln Ser Tyr Asn Leu Trp Thr
1 5

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

<220>
<223> Antibody 132H4 VH sequence CDR1 Chothia

<400> 213
Gly Phe Thr Phe Ser Asn Tyr
1 5

<210> 214
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH sequence CDR2 Chothia

<400> 214
Ser Ser Gly Gly Ala Asn
1 5

<210> 215
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VH sequence CDR3 Chothia

<400> 215
Gly Asp Tyr Phe Asn His Phe Trp Phe Ala Tyr
1 5 10

<210> 216
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK sequence CDR1 Chothia

<400> 216
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1 5 10 15

<210> 217
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 217
Lys Val Ser Asn Arg Phe Ser
1 5

<210> 218
<211> 9
<212> PRT
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<220>
<223> Antibody 132H4 VK sequence CDR3 Chothia

<400> 218
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 219

<211> 7
<212> PRT
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<220>
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<400> 219
Gly Phe Thr Phe Ser Asn Tyr
1   5

<210> 220
<211> 6
<212> PRT
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<220>
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<400> 220
Ser Ser Gly Gly Gly Asn
1   5

<210> 221
<211> 11
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<220>
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<400> 221
Gly Asp Tyr Ser Asn Tyr Phe Trp Phe Ala Tyr
1   5   10

<210> 222
<211> 16
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<220>
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<400> 222
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
1   5   10   15

<210> 223
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<400> 223
Lys Val Ser Asn Arg Phe Ser
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<210> 224
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<400> 224
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 225
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<400> 225
Gly Phe Lys Ile Lys Asp Thr
1 5

<210> 226
<211> 6
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<220>
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<400> 226
Asp Pro Ala Asn Gly Asn
1 5

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<400> 227
Tyr Val Trp Phe Ala Tyr
1 5

<210> 228
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<220>
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<400> 228
Thr Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 229
<211> 7
<212> PRT
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<400> 229
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<210> 230

<211> 9
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<220>
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<400> 230
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1 5

<210> 231
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<212> PRT
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<220>
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<400> 231
Asn Tyr Gly Met Asn
1 5

<210> 232
<211> 17
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<220>
<223> Antibody 107C6 VH sequence CDR2 Kabat

<400> 232
Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15
Gly

<210> 233
<211> 11
<212> PRT
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<220>
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<400> 233
Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1 5 10

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<211> 17
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<220>
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<400> 234
Lys Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu
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Val

<210> 235
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<220>
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<400> 235
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1 5

<210> 236
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<220>
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<400> 236
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 237
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<220>
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<400> 237
Asn Tyr Gly Met Asn
1 5

<210> 238
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<220>
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<400> 238
Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15
Gly

<210> 239
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<400> 239
Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
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<400> 240
Lys Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Val

<210> 241
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<400> 241
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<210> 243
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<400> 243
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<210> 244
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<400> 244
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1 5 10 15
Gly

<210> 245
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<400> 245
Tyr Val Trp Phe Ala Tyr
1 5

<210> 246
<211> 16
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<400> 246
Arg Ser Ser Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 247
<211> 7
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<220>
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<400> 247
Thr Val Ser Asn Arg Phe Ser
1 5

<210> 248
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<220>
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<400> 248
Ser Gln Ser Thr Leu Val Pro Trp Thr
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<210> 249
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<220>
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<400> 249
Asp Thr Tyr Ile His
1 5

<210> 250
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<220>
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<400> 250
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

<210> 251
<211> 6
<212> PRT
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<220>
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<400> 251
Tyr Val Trp Phe Ala Tyr
1 5

<210> 252
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<220>
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<400> 252
Arg Ala Arg Ser Ser Val Ser Ser Ser Tyr Leu His
1 5 10

<210> 253
<211> 7
<212> PRT
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<400> 253
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1 5

<210> 254
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<400> 254
Gln Gln Tyr Ser Gly Tyr Pro Leu Thr
1 5

<210> 255
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<400> 255
Arg Ser Ser Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 256
<211> 7
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<400> 256
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1 5

<210> 257

<211> 9
<212> PRT
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<220>
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<400> 257
Ser Gln Ser Thr Leu Val Pro Trp Thr
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<210> 258
<211> 5
<212> PRT
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<220>
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<400> 258
Asp Thr Tyr Ile His
1 5

<210> 259
<211> 17
<212> PRT
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<220>
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<400> 259
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

<210> 260
<211> 6
<212> PRT
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<220>
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<400> 260
Tyr Val Trp Phe Ala Tyr
1 5

<210> 261
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<400> 261
Ser Tyr Gly Val His
1 5

<210> 262
<211> 16
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<220>
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<400> 262
Val Ile Trp Arg Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Met Ser
1 5 10 15

<210> 263
<211> 12
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<220>
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Asn Trp Glu Tyr Asp Gly Tyr Trp Gly Phe Ala Tyr
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<210> 264
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<220>
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<400> 264
Asp Asp Tyr Met His
1 5

<210> 265
<211> 17
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<220>
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<400> 265
Arg Ile Asp Pro Ala Asn Gly Asn Thr Lys Tyr Ala Pro Lys Phe Gln
1 5 10 15
Asp

<210> 266
<211> 9
<212> PRT
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<220>
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<400> 266
Ser Tyr Asp Gly Ser Leu Gly Asp Tyr
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<210> 267
<211> 16
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<220>
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<400> 267
Thr Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 268
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<220>
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<400> 268
Lys Val Ser Asp Arg Phe Ser
1 5

<210> 269
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<400> 269
Ser Gln Ser Ser Leu Val Pro Trp Thr
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<210> 270
<211> 5
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<220>
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<400> 270
Asn Tyr Gly Val His
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<210> 271
<211> 16
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<400> 271
Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Lys Ser
1 5 10 15

<210> 272
<211> 12
<212> PRT
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<220>
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<400> 272
Asn Phe Tyr Ser Lys Tyr Asp Tyr Ala Met Asp Tyr
1 5 10

<210> 273
<211> 5
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<220>
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<400> 273
Ser Tyr Trp Met His
1 5

<210> 274
<211> 17
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<220>
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<400> 274
Asn Ile Asn Pro Asn Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe Lys
1 5 10 15
Gly

<210> 275
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Leu Gly Asp Tyr
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<210> 276
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<400> 276
Ser Tyr Gly Val His
1 5

<210> 277
<211> 16
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<220>
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<400> 277
Val Ile Trp Ala Gly Gly Ser Thr Asn Tyr Asn Ser Ala Leu Met Ser
1 5 10 15

<210> 278
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<400> 278
Asp Ser Asn Tyr Phe Asp Tyr
1 5

<210> 279
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<220>
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<400> 279
Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 280
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<400> 280
Asp Thr Ser Lys Leu Ala Ser
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<400> 281
Phe Gln Gly Ser Gly Tyr Pro Leu Thr
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<400> 282
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<400> 283
Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Ile Ser
1 5 10 15

<210> 284

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<220>
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<400> 284
Ser Tyr Asp Tyr Asp Gly Arg Gly Tyr Phe Asp Tyr
1 5 10

<210> 285
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<220>
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<400> 285
Arg Ala Ser Glu Asn Val Tyr Arg Tyr Leu Ala
1 5 10

<210> 286
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<400> 286
Ser Ala Lys Thr Leu Ala Glu
1 5

<210> 287
<211> 9
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<400> 287
Gln His His Tyr Asn Thr Pro Leu Thr
1 5

<210> 288
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<220>
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<400> 288
Lys Ser Ser Gln Ser Leu Phe Asn Ser Lys Thr Arg Lys Asn Tyr Leu
1 5 10 15
Ala

<210> 289
<211> 7
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<220>
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<400> 289
Trp Ala Ser Thr Arg Lys Ser
1 5

<210> 290
<211> 8
<212> PRT
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<220>
<223> Antibody 131H1 VK2 sequence CDR3 Kabat

<400> 290
Lys Gln Ser Tyr Asn Leu Trp Thr
1 5

<210> 291
<211> 5
<212> PRT
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<220>
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<400> 291
Asn Tyr Ala Met Ser
1 5

<210> 292
<211> 17
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<220>
<223> Antibody 132H4 VH sequence CDR2 Kabat

<400> 292
Thr Ile Ser Ser Gly Gly Ala Asn Ile Tyr Tyr Pro Asp Ser Val Lys
1 5 10 15
Gly

<210> 293
<211> 11
<212> PRT
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<220>
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<400> 293
Gly Asp Tyr Phe Asn His Phe Trp Phe Ala Tyr
1 5 10

<210> 294
<211> 16
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<400> 294
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
1 5 10 15

<210> 295
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<400> 295
Lys Val Ser Asn Arg Phe Ser
1 5

<210> 296
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<400> 296
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 297
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<400> 297
Asn Tyr Ala Met Ser
1 5

<210> 298
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<220>
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<400> 298
Thr Ile Ser Ser Gly Gly Gly Asn Ile Tyr Tyr Thr Asp Ser Val Lys
1 5 10 15
Gly

<210> 299
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<220>
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<400> 299
Gly Asp Tyr Ser Asn Tyr Phe Trp Phe Ala Tyr
1 5 10

<210> 300
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<400> 300
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
1 5 10 15

<210> 301
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<400> 301
Lys Val Ser Asn Arg Phe Ser
1 5

<210> 302
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<400> 302
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 303
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<400> 303
Asp Thr Tyr Ile His
1 5

<210> 304
<211> 17
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<223> Antibody 131B4-2 VH sequence CDR2 Kabat

<400> 304
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

<210> 305
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<220>
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<400> 305

Tyr Val Trp Phe Ala Tyr
1 5

<210> 306
<211> 16
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<400> 306
Thr Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

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<400> 307
Lys Val Ser Asp Arg Phe Ser
1 5

<210> 308
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<400> 308
Ser Gln Ser Ser Leu Val Pro Trp Thr
1 5

<210> 309
<211> 10
<212> PRT
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<400> 309
Gly Tyr Thr Phe Thr Asn Tyr Gly Met Asn
1 5 10

<210> 310
<211> 17
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<220>
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<400> 310
Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15
Gly

<210> 311

<211> 13
<212> PRT
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<220>
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<400> 311
Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1 5 10

<210> 312
<211> 17
<212> PRT
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<220>
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<400> 312
Lys Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15
Val

<210> 313
<211> 7
<212> PRT
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<220>
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<400> 313
Trp Ala Ser Thr Arg Gly Ser
1 5

<210> 314
<211> 8
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<220>
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<400> 314
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 315
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<220>
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<400> 315
Gly Tyr Thr Phe Thr Asn Tyr Gly Met Asn
1 5 10

<210> 316
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<400> 316
Trp Ile Asn Thr Tyr Ser Gly Val Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15
Gly

<210> 317
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<400> 317
Ala Arg Glu Gly Tyr Ser Thr Thr Arg Ser Met Asp Tyr
1 5 10

<210> 318
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<400> 318
Lys Ser Ser Gln Ser Leu Leu Asp Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15
Val

<210> 319
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<400> 319
Trp Ala Ser Thr Arg Gly Ser
1 5

<210> 320
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<400> 320
Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

<210> 321
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<400> 321
Gly Phe Lys Ile Lys Asp Thr Tyr Ile His
1 5 10

<210> 322
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<400> 322
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

<210> 323
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 323
Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 324
<211> 16
<212> PRT
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<220>
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<400> 324
Arg Ser Ser Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 325
<211> 7
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<220>
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<400> 325
Thr Val Ser Asn Arg Phe Ser
1 5

<210> 326
<211> 9
<212> PRT
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<220>
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<400> 326
Ser Gln Ser Thr Leu Val Pro Trp Thr
1 5

<210> 327
<211> 10
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<213> Artificial Sequence

<220>
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<400> 327
Gly Phe Lys Ile Lys Asp Thr Tyr Ile His
1 5 10

<210> 328
<211> 17
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<213> Artificial Sequence

<220>
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<400> 328
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

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

<220>
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<400> 329
Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 330
<211> 12
<212> PRT
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<220>
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<400> 330
Arg Ala Arg Ser Ser Val Ser Ser Ser Tyr Leu His
1 5 10

<210> 331
<211> 7
<212> PRT
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<220>
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<400> 331
Ser Thr Ser Asn Leu Ala Ser
1 5

<210> 332
<211> 9
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<220>
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<400> 332

Gln Gln Tyr Ser Gly Tyr Pro Leu Thr
1 5

<210> 333
<211> 16
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<220>
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<400> 333
Arg Ser Ser Gln Arg Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 334
<211> 7
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<220>
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<400> 334
Thr Val Ser Asn Arg Phe Ser
1 5

<210> 335
<211> 9
<212> PRT
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<220>
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<400> 335
Ser Gln Ser Thr Leu Val Pro Trp Thr
1 5

<210> 336
<211> 10
<212> PRT
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<220>
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<400> 336
Gly Phe Lys Ile Lys Asp Thr Tyr Ile His
1 5 10

<210> 337
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH1 sequence CDR2

<400> 337
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

<210> 338

<211> 8
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<220>
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Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 339
<211> 10
<212> PRT
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<220>
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<400> 339
Gly Phe Ser Leu Thr Ser Tyr Gly Val His
1 5 10

<210> 340
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<212> PRT
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<220>
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<400> 340
Val Ile Trp Arg Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Met Ser
1 5 10 15

<210> 341
<211> 14
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<220>
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<400> 341
Ala Lys Asn Trp Glu Tyr Asp Gly Tyr Trp Gly Phe Ala Tyr
1 5 10

<210> 342
<211> 10
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<220>
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<400> 342
Gly Phe Asn Ile Lys Asp Asp Tyr Met His
1 5 10

<210> 343
<211> 17
<212> PRT
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<220>
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<400> 343
Arg Ile Asp Pro Ala Asn Gly Asn Thr Lys Tyr Ala Pro Lys Phe Gln
1 5 10 15
Asp

<210> 344
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VH3 sequence CDR3

<400> 344
Ala Arg Ser Tyr Asp Gly Ser Leu Gly Asp Tyr
1 5 10

<210> 345
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131B4 VK sequence CDR1

<400> 345
Thr Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 346
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 346
Lys Val Ser Asp Arg Phe Ser
1 5

<210> 347
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 347
Ser Gln Ser Ser Leu Val Pro Trp Thr
1 5

<210> 348
<211> 10
<212> PRT
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<220>
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<400> 348
Gly Phe Ser Leu Pro Asn Tyr Gly Val His
1 5 10

<210> 349
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
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<400> 349
Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Lys Ser
1 5 10 15

<210> 350
<211> 14
<212> PRT
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<220>
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<400> 350
Ala Arg Asn Phe Tyr Ser Lys Tyr Asp Tyr Ala Met Asp Tyr
1 5 10

<210> 351
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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<400> 351
Gly Tyr Thr Phe Thr Ser Tyr Trp Met His
1 5 10

<210> 352
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH2 sequence CDR2

<400> 352
Asn Ile Asn Pro Asn Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe Lys
1 5 10 15
Gly

<210> 353
<211> 6
<212> PRT
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<220>
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<400> 353
Ala Arg Leu Gly Asp Tyr
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<210> 354
<211> 10
<212> PRT

<213> Artificial Sequence

<220>
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<400> 354
Gly Phe Ser Leu Thr Ser Tyr Gly Val His
1 5 10

<210> 355
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VH3 sequence CDR2

<400> 355
Val Ile Trp Ala Gly Gly Ser Thr Asn Tyr Asn Ser Ala Leu Met Ser
1 5 10 15

<210> 356
<211> 9
<212> PRT
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<220>
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<400> 356
Ala Arg Asp Ser Asn Tyr Phe Asp Tyr
1 5

<210> 357
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131E8 VK sequence CDR1

<400> 357
Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 358
<211> 7
<212> PRT
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<220>
<223> Antibody 131E8 VK sequence CDR2

<400> 358
Asp Thr Ser Lys Leu Ala Ser
1 5

<210> 359
<211> 9
<212> PRT
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<220>
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<400> 359

Phe Gln Gly Ser Gly Tyr Pro Leu Thr
1 5

<210> 360
<211> 10
<212> PRT
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<220>
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<400> 360
Gly Phe Ser Leu Thr Ser Tyr Gly Val His
1 5 10

<210> 361
<211> 16
<212> PRT
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<220>
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Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Ile Ser
1 5 10 15

<210> 362
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VH sequence CDR3

<400> 362
Ala Arg Ser Tyr Asp Tyr Asp Gly Arg Gly Tyr Phe Asp Tyr
1 5 10

<210> 363
<211> 11
<212> PRT
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<220>
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<400> 363
Arg Ala Ser Glu Asn Val Tyr Arg Tyr Leu Ala
1 5 10

<210> 364
<211> 7
<212> PRT
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<220>
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<400> 364
Ser Ala Lys Thr Leu Ala Glu
1 5

<210> 365
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK1 sequence CDR3

<400> 365
Gln His His Tyr Asn Thr Pro Leu Thr
1 5

<210> 366
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 131H1 VK2 sequence CDR1

<400> 366
Lys Ser Ser Gln Ser Leu Phe Asn Ser Lys Thr Arg Lys Asn Tyr Leu
1 5 10 15
Ala

<210> 367
<211> 7
<212> PRT
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<220>
<223> Antibody 131H1 VK2 sequence CDR2

<400> 367
Trp Ala Ser Thr Arg Lys Ser
1 5

<210> 368
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 368
Lys Gln Ser Tyr Asn Leu Trp Thr
1 5

<210> 369
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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<400> 369
Gly Phe Thr Phe Ser Asn Tyr Ala Met Ser
1 5 10

<210> 370
<211> 17
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<220>
<223> Antibody 132H4 VH sequence CDR2

<400> 370

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

<210> 371
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 312H4 VH sequence CDR3

<400> 371
Ala Arg Gly Asp Tyr Phe Asn His Phe Trp Phe Ala Tyr
1 5 10

<210> 372
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 132H4 VK sequence CDR1

<400> 372
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
1 5 10 15

<210> 373
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 373
Lys Val Ser Asn Arg Phe Ser
1 5

<210> 374
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 374
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 375
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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<400> 375
Gly Phe Thr Phe Ser Asn Tyr Ala Met Ser
1 5 10

<210> 376

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

<220>
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<400> 376
Thr Ile Ser Ser Gly Gly Gly Asn Ile Tyr Tyr Thr Asp Ser Val Lys
1 5 10 15
Gly

<210> 377
<211> 13
<212> PRT
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<220>
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<400> 377
Ala Arg Gly Asp Tyr Ser Asn Tyr Phe Trp Phe Ala Tyr
1 5 10

<210> 378
<211> 16
<212> PRT
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<400> 378
Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
1 5 10 15

<210> 379
<211> 7
<212> PRT
<213> Artificial Sequence

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<400> 379
Lys Val Ser Asn Arg Phe Ser
1 5

<210> 380
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 133A6 VK sequence CDR3

<400> 380
Phe Gln Gly Ser His Val Pro Trp Thr
1 5

<210> 381
<211> 10
<212> PRT
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<220>
<223> Antibody 131B4-2 VH sequence CDR1

<400> 381
Gly Phe Lys Ile Lys Asp Thr Tyr Ile His
1 5 10

<210> 382
<211> 17
<212> PRT
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<400> 382
Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe Gln
1 5 10 15
Gly

<210> 383
<211> 8
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<220>
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<400> 383
Ala Gly Tyr Val Trp Phe Ala Tyr
1 5

<210> 384
<211> 16
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<400> 384
Thr Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 385
<211> 7
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<220>
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<400> 385
Lys Val Ser Asp Arg Phe Ser
1 5

<210> 386
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 386

Ser Gln Ser Ser Leu Val Pro Trp Thr
1 5

<210> 387
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
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<400> 387
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Lys Ile Lys Asp Thr
20 25 30
Tyr Ile His Trp Leu Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Ile Tyr Gly Ser Lys Phe
50 55 60
Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80
Ile Gln Leu Ser Ser Leu Thr Ser Gly Asp Thr Ala Val Tyr Phe Cys
85 90 95
Ala Gly Tyr Val Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110
Val Ser Ala
115

<210> 388
<211> 85
<212> PRT
<213> Human

<220>
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<400> 388
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
20 25 30
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45
Ser Trp Ala Glu Gly Asn Leu Ala Pro His Pro Arg Ser Pro Ala Leu
50 55 60
Gln Pro Gln Gln Ser Thr Ala Ala Gly Leu Arg Leu Ser Thr Gly Pro
65 70 75 80
Ala Ala Ala Gln Pro
85

<210> 389
<211> 168
<212> PRT
<213> Human

<220>
<223> Human interleukin-18 binding protein isoform c

<400> 389
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15
Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
20 25 30
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
50 55 60

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Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65 70 75 80
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
85 90 95
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
100 105 110
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
115 120 125
Val Gln Arg His Val Val Leu Ala Gln Leu Trp Val Arg Ser Pro Arg
130 135 140
Arg Gly Leu Gln Glu Gln Glu Glu Leu Cys Phe His Met Trp Gly Lys
145 150 155 160
Gly Gly Leu Cys Gln Ser Ser Leu
165

<210> 390
<211> 132
<212> PRT
<213> Human

<220>
<223> Human interleukin-18 binding protein isoform d

<400> 390
Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15
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20 25 30
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
50 55 60
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65 70 75 80
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
85 90 95
Gly Trp Ala Glu Gly Asn Leu Ala Pro His Pro Arg Ser Pro Ala Leu
100 105 110
Gln Pro Gln Gln Ser Thr Ala Ala Gly Arg Leu Ser Thr Gly Pro Ala
115 120 125
Ala Ala Gln Pro
130