

13-596-WO_SequenceListing_ST25
SEQUENCE LISTING

<110> Sanofi

<120> ANTIBODIES TO PLASMINOGEN ACTIVATOR INHIBITOR-1 (PAI-1) AND USES THEREOF

<130> 13-596-WO

<160> 147

<170> PatentIn version 3.5

<210> 1

<211> 379

<212> PRT

<213> Homo sapiens

<400> 1

Val His His Pro Pro Ser Tyr Val Ala His Leu Ala Ser Asp Phe Gly
1 5 10 15

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

Val Phe Ser Pro Tyr Gly Val Ala Ser Val Leu Ala Met Leu Gln Leu
35 40 45

Thr Thr Gly Gly Glu Thr Gln Gln Gln Ile Gln Ala Ala Met Gly Phe
50 55 60

Lys Ile Asp Asp Lys Gly Met Ala Pro Ala Leu Arg His Leu Tyr Lys
65 70 75 80

Glu Leu Met Gly Pro Trp Asn Lys Asp Glu Ile Ser Thr Thr Asp Ala
85 90 95

Ile Phe Val Gln Arg Asp Leu Lys Leu Val Gln Gly Phe Met Pro His
100 105 110

Phe Phe Arg Leu Phe Arg Ser Thr Val Lys Gln Val Asp Phe Ser Glu
115 120 125

Val Glu Arg Ala Arg Phe Ile Ile Asn Asp Trp Val Lys Thr His Thr
130 135 140

Lys Gly Met Ile Ser Asn Leu Leu Gly Lys Gly Ala Val Asp Gln Leu
145 150 155 160

Thr Arg Leu Val Leu Val Asn Ala Leu Tyr Phe Asn Gly Gln Trp Lys
165 170 175

Thr Pro Phe Pro Asp Ser Ser Thr His Arg Arg Leu Phe His Lys Ser
180 185 190

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Asp Gly Ser Thr Val Ser Val Pro Met Met Ala Gln Thr Asn Lys Phe
195 200 205

Asn Tyr Thr Glu Phe Thr Thr Pro Asp Gly His Tyr Tyr Asp Ile Leu
210 215 220

Glu Leu Pro Tyr His Gly Asp Thr Leu Ser Met Phe Ile Ala Ala Pro
225 230 235 240

Tyr Glu Lys Glu Val Pro Leu Ser Ala Leu Thr Asn Ile Leu Ser Ala
245 250 255

Gln Leu Ile Ser His Trp Lys Gly Asn Met Thr Arg Leu Pro Arg Leu
260 265 270

Leu Val Leu Pro Lys Phe Ser Leu Glu Thr Glu Val Asp Leu Arg Lys
275 280 285

Pro Leu Glu Asn Leu Gly Met Thr Asp Met Phe Arg Gln Phe Gln Ala
290 295 300

Asp Phe Thr Ser Leu Ser Asp Gln Glu Pro Leu His Val Ala Gln Ala
305 310 315 320

Leu Gln Lys Val Lys Ile Glu Val Asn Glu Ser Gly Thr Val Ala Ser
325 330 335

Ser Ser Thr Ala Val Ile Val Ser Ala Arg Met Ala Pro Glu Glu Ile
340 345 350

Ile Met Asp Arg Pro Phe Leu Phe Val Val Arg His Asn Pro Thr Gly
355 360 365

Thr Val Leu Phe Met Gly Gln Val Met Glu Pro
370 375

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<223> mA105 VH

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

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

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

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

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

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

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

Ile Leu Thr Val Ser Ser Ala Lys Thr Thr Pro Pro
115 120

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

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

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

Pro Gln Arg Leu Ile Ser Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

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

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

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

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

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

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

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

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

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

Arg Leu Gly Ile Gly Leu Arg Gly Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro
115 120 125

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Asp Ile Gln Met Thr His 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 Ile Tyr Ser Tyr
20 25 30

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

Tyr Asn 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 Asn Ile Lys Ser Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp
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Glu Met Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Met Thr Asn Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Tyr Met
35 40 45

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

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

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

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

Thr Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Pro Pro
115 120 125

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

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

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

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

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

Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Pro
85 90 95

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

<210> 8
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Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala
1 5 10 15

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

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

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

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

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

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

Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Pro Pro
115 120

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13-596-WO_SequenceListing_ST25

<223> mA71 VL

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

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

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

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

Asp Arg Phe Thr 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 Trp Gln Asp
85 90 95

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

Arg Ala Asp
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Glu Val Gln Leu Gln Gln Ser Gly Ser Val Leu Ala Arg Pro Gly Thr
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Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

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

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

Ala Ile Tyr Pro Gly Asn Ser Asp Thr Thr Tyr Asn Gln Lys Phe Glu
65 70 75 80

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

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Glu Val Ser Ser Leu Thr Asn Glu Asp Ser Ala Val Tyr Tyr Cys Thr
100 105 110

Arg Gly Leu Arg Arg Trp Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr
115 120 125

Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro
130 135 140

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Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Ala Gly
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Asp Arg Val Ser Ile Pro Cys Lys Ala Ser Gln Asp Val Ser Ser Ala
20 25 30

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

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

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

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

Thr Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys Arg Ala Asp
100 105 110

<210> 12
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Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala
1 5 10 15

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

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

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

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

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

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

Thr Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Pro Pro
115 120 125

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

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

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

Tyr Asn 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 Tyr Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Asp
100 105 110

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

<210> 15

<211> 107

<212> PRT

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<223> mC45 VL

<400> 15

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

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Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Arg
85 90 95

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

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<223> mE16 VH

<400> 16

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

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

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

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

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

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

Thr Val Thr Val Ser Ser
115

<210> 17
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<212> PRT
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<400> 17

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

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

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

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

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

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

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

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<223> mE21 VH

<400> 18

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

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

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

Gly Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Asp Pro Lys Phe
50 55 60

Gln Ala Lys Ala Thr Met 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

Met Tyr Gly Asn Tyr Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
115

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<223> mE21 VL

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

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

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

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

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

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

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

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<223> mA105 HCDR3

<400> 20

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

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<212> PRT

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<400> 21

Ile Leu Pro Gly Ser Gly Ser Thr
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<223> mA105 HCDR1

<400> 22

Gly Phe Thr Phe Ser Ile Tyr Trp
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<212> PRT

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<223> mA105 LCDR3

<400> 23

Trp Gln Asp Arg His Phe Pro Arg Thr
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<223> mA105 LCDR2

<400> 24

Leu Val Ser
1

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<223> mA105 LCDR1

<400> 25

Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr
1 5 10

<210> 26

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<400> 26

Ala Arg Leu Gly Ile Gly Leu Arg Gly Ala Leu Asp Tyr
1 5 10

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<400> 27

Ile Leu Pro Gly Ser Asn Thr
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<400> 28

Gly Tyr Thr Phe Asn Ile Tyr Trp
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<400> 29

Gln His Arg Tyr Gly Ser Pro Trp Thr
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<400> 30

Asn Ala Lys
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<223> mA38 LCDR1

<400> 31

Glu Asn Ile Tyr Ser Tyr
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<220>

<223> mA44 HCDR3

<400> 32

Ala Arg Trp His Tyr Gly Ser Pro Tyr Tyr Phe Asp Tyr
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<400> 33

Ile Thr Tyr Ser Gly Ser Thr
1 5

<210> 34

<211> 8

<212> PRT

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<223> mA44 HCDR1

<400> 34

Gly Asp Ser Met Thr Asn Gly Tyr
1 5

<210> 35

<211> 9

<212> PRT

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<223> mA44 LCDR3

<400> 35

Leu Gln Tyr Asp Glu Phe Pro Pro Thr
1 5

<210> 36

<211> 3

<212> PRT

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<400> 36

Arg Ala Asn
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<210> 37

<211> 6

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<400> 37

Gln Asp Ile Asn Ser Tyr
1 5

<210> 38
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<400> 38

Ala Arg Gly Gly Leu Tyr Tyr Asn Leu Asp Ser
1 5 10

<210> 39
<211> 8
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<400> 39

Ile Leu Pro Gly Ser Gly Asn Thr
1 5

<210> 40
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<400> 40

Gly Phe Thr Phe Ser Thr Tyr Trp
1 5

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<400> 41

Trp Gln Asp Thr His Phe Pro Arg Thr
1 5

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<400> 42

Leu Val Ser
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<400> 43

Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr
 1 5 10

<210> 44
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<400> 44

Ala Arg Gly Gly Leu Tyr Tyr Ala Met Asp Tyr
 1 5 10

<210> 45
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Ile Leu Pro Gly Ser Gly Leu Thr
 1 5

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<400> 46

Gly Phe Thr Phe Ser Thr Tyr Trp
 1 5

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<400> 47

Trp Gln Gly Ser His Phe Pro Gln Thr
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Leu Val Cys
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Gln Ser Leu Leu Asp Ser Glu Gly Lys Thr Tyr
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Thr Arg Gly Leu Arg Arg Trp Gly Ala Met Asp Tyr
 1 5 10

<210> 51
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<400> 51

Ile Leu Pro Gly Ser Gly Leu Thr
1 5

<210> 52
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<400> 52

Gly Phe Thr Phe Ser Thr Tyr Trp
1 5

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<400> 53

Gln Gln His Tyr Ser Ser Pro Tyr Thr
1 5

<210> 54
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<400> 54

Ser Ala Ser
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<400> 55

Gln Asp Val Ser Ser Ala
1 5

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Ala Arg Leu Ser Thr Gly Thr Arg Gly Ala Phe Asp Tyr
1 5 10

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Ile Leu Pro Gly Ser Gly Gly Ala
1 5

<210> 58

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<400> 58

Gly Tyr Thr Phe Ser Ile Ser Trp
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<210> 59

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<223> mB28 LCDR3

<400> 59

Gln His His Tyr Gly Thr Pro Pro Thr
1 5

<210> 60

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> mB28 LCDR2

<400> 60

Asn Ala Lys
1

<210> 61

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> mB28 LCDR1

<400> 61

Glu Asn Val Tyr Ser Tyr
1 5

<210> 62

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> mC45 HCDR3

<400> 62

Ala Arg Asp Tyr Tyr Gly Ser Ser His Gly Leu Met Asp Tyr
1 5 10

<210> 63

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> mC45 HCDR2

<400> 63

Ile His Pro Gly Ser Gly Val Thr
1 5

<210> 64

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> mC45 HCDR1

<400> 64

Gly Tyr Ala Phe Thr Asn Tyr Leu
1 5

<210> 65

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> mC45 LCDR3

<400> 65

Leu Gln Tyr Asp Glu Phe Pro Arg Thr
1 5

<210> 66

<211> 3

<212> PRT

<213> Artificial Sequence

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<220>
<223> mC45 LCDR2

<400> 66

Arg Ala Asn
1

<210> 67
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> mC45 LCDR1

<400> 67

Gln Asp Ile Asn Ser Tyr
1 5

<210> 68
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> mE16 HCDR3

<400> 68

Ala Arg Gly Leu Arg His Trp Gly Tyr Phe Asp Val
1 5 10

<210> 69
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> mE16 HCDR2

<400> 69

Leu Arg Thr Gly Gly Asn Thr
1 5

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

<220>
<223> mE16 HCDR1

<400> 70

Gly Phe Thr Phe Ser Asn Tyr Gly
1 5

<210> 71
<211> 9

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<212> PRT
<213> Artificial Sequence

<220>
<223> mE16 LCDR3

<400> 71

Gln Gln His Tyr Ser Ser Pro Trp Thr
1 5

<210> 72
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> mE16 LCDR2

<400> 72

Ser Ala Ser
1

<210> 73
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> mE16 LCDR1

<400> 73

Gln Asp Ile Ser Asn Tyr
1 5

<210> 74
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> mE21 HCDR3

<400> 74

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

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

<220>
<223> mE21 HCDR2

<400> 75

Ile Asp Pro Glu Asn Gly Asp Thr
1 5

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

<220>
 <223> mE21 HCDR1

<400> 76

Gly Phe Asn Ile Lys Asp Tyr Tyr
 1 5

<210> 77
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mE21 LCDR3

<400> 77

Gln Gln Gly Asn Thr Leu Pro Trp Thr
 1 5

<210> 78
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mE21 LCDR2

<400> 78

Tyr Thr Ser
 1

<210> 79
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mE21 LCDR1

<400> 79

Gln Asp Ile Ser Asn Tyr
 1 5

<210> 80
 <211> 124
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mA75 VH

<400> 80

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

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

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

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

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

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

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

Ser Val Thr Val Ser Ser Ala Lys Thr Thr Ala Pro
115 120

<210> 81
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> mA75 VL

<400> 81

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

Gln Pro Ala Ser Ile Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser Glu
20 25 30

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

Lys Arg Leu Ile Tyr Leu Val Cys Lys Leu Asp Cys Gly Val Pro Asp
50 55 60

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

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

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

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Ala Asp

<210> 82
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HC1a

<400> 82

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

Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Met Thr Asn Gly
 20 25 30

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

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

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

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

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

Thr Thr Leu Thr Val Ser Ser
 115

<210> 83
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HC1b

<400> 83

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

Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Met Thr Asn Gly
 20 25 30

Tyr Trp Asn Trp Ile Arg Lys Phe Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

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

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

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

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 84
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> HC2a

<400> 84

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

Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Glu Ser Met Thr Gln Gly
20 25 30

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

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

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

Thr Leu Ser Ser Val Thr Thr Val Glu Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 85
<211> 119
<212> PRT
<213> Artificial Sequence

<220>

13-596-WO_SequenceListing_ST25

<223> HC2b

<400> 85

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

Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Met Thr Gln Gly
20 25 30

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

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

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

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

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 86

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> HC3

<400> 86

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

Thr Leu Ser Leu Thr Cys Ser Val Ser Gly Asp Ser Met Thr Asn Gly
20 25 30

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

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

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

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

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

Thr Thr Leu Thr Val Ser Ser
115

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

<220>
<223> HC4

<400> 87

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

Thr Leu Ser Leu Thr Cys Ser Val Ser Gly Glu Ser Met Thr Gln Gly
20 25 30

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

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

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

Thr Leu Ser Ser Val Thr Thr Val Glu Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 88
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> HC5a

<400> 88

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

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Met Thr Asn Gly
20 25 30

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Tyr Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

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

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

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

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

Thr Leu Val Thr Val Ser Ser
115

<210> 89
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> HC5b

<400> 89

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

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Met Thr Asn Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

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

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

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

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

Thr Leu Val Thr Val Ser Ser
115

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<210> 90
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HC5a

<400> 90

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

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

<220>
 <223> LC1a

<400> 91

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

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

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

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

<210> 92
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> LC1b

<400> 92

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

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

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

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

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

Met Asp Glu Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Pro
85 90 95

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

<210> 93
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> LC2

<400> 93

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

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

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

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

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

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

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

<210> 94
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> LC3

<400> 94

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

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

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

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

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

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

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

<210> 95
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> LC4

<400> 95

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

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

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

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

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

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

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

<210> 96

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> LC5a

<400> 96

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

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

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

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

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

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

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

<210> 97

<211> 107

13-596-WO_SequenceListing_ST25

<212> PRT
<213> Artificial Sequence

<220>
<223> LC5b

<400> 97

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

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

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

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

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

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

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

<210> 98
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> LC5c

<400> 98

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

Glu Arg Ala Thr Leu Ser Cys Lys Ala Ser Gln Asp Ile Asn Ser Tyr
20 25 30

Leu Ser Trp Leu Gln Gln Lys Pro Gly Gln Ala Pro Arg Thr Leu Ile
35 40 45

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

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

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

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

<210> 99
<211> 255
<212> PRT
<213> Artificial Sequence

<220>
<223> CH
<400> 99

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<210> 100
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> CL

<400> 100

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

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

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

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

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

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

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

<210> 101
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> vk1

<400> 101

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

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

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

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

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

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

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

<210> 102
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> vlamba3

<220>
<221> misc_feature
<222> (22)..(22)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> misc_feature
<222> (87)..(87)
<223> Xaa can be any naturally occurring amino acid

<400> 102

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

Thr Ala Ser Ile Thr Xaa Ser Gly Asp Lys Leu Gly Asp Lys Tyr Ala
20 25 30

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

Gln Asp Ser Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

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

Asp Glu Ala Asp Tyr Tyr Xaa Gln Ala Trp Asp Ser Ser Ala Val Val
85 90 95

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

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

<220>
 <223> vh2

<400> 103

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

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

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

Trp Leu Ala Arg Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

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

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

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

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 104
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> vh4

<220>
 <221> misc_feature
 <222> (22)..(22)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> misc_feature
 <222> (95)..(95)
 <223> Xaa can be any naturally occurring amino acid

<400> 104

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

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

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

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

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 105
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Heavy Chain 3'- Primer

<400> 105
tatgcaaggc ttacaaccac a

21

<210> 106
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Light Chain 3'- Primer

<400> 106
ctcattcctg ttgaagctct tgag

24

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

<220>
<223> IGKV1-33-01_IGKJ4-01

<400> 107

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

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

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

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

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

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

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

<210> 108
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> IGHV4-59-02_IGHD6-13-01_IGHJ4-02

<400> 108

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

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

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

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

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

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

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

Thr Leu Val Thr Val Ser Ser
115

<210> 109
<211> 226
<212> PRT
<213> Artificial Sequence

13-596-WO_SequenceListing_ST25

<220>

<223> A44-hv1 LC1a x HC1a

<400> 109

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Glu Met Thr Leu Lys
100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ser Val Thr Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Lys Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Ser Ile
165 170 175

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

Thr Thr Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210 215 220

Ser Ser
225

<210> 110

<211> 226

13-596-WO_SequenceListing_ST25

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<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv2 LC1b x HC1b

<400> 110

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

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

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

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

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

Met Asp Glu Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Pro
85     90     95

Thr Phe Gly Gly Gly Thr Lys Leu Thr Ile Lys Glu Met Gln Leu Gln
100    105    110

Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr
115    120    125

Cys Ser Val Thr Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130    135    140

Arg Lys Phe Pro Gly Lys Gly Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145    150    155    160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Ser Ile
165    170    175

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

Thr Thr Ala Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195    200    205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210    215    220

Ser Ser
225

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<210> 111
 <211> 226
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A44-hv3 LC2 x HC2a

<400> 111

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Glu Met Thr Leu Lys
 100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
 115 120 125

Cys Ser Val Thr Gly Glu Ser Met Thr Gln Gly Tyr Trp Asn Trp Ile
 130 135 140

Arg Lys Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
 145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Ser Ile
 165 170 175

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

Thr Thr Val Glu Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
 195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
 210 215 220

Ser Ser
 225

13-596-WO_SequenceListing_ST25

<210> 112
 <211> 226
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A44-hv4 LC1a x HC2b
 <400> 112

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Glu Met Thr Leu Lys
 100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
 115 120 125

Cys Ser Val Thr Gly Asp Ser Met Thr Gln Gly Tyr Trp Asn Trp Ile
 130 135 140

Arg Lys Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
 145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Ser Ile
 165 170 175

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

Thr Thr Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
 195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
 210 215 220

13-596-WO_SequenceListing_ST25

Ser Ser
225

<210> 113
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv5 LC2 x HC2b

<400> 113

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Glu Met Thr Leu Lys
100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ser Val Thr Gly Asp Ser Met Thr Gln Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Lys Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Ser Ile
165 170 175

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

Thr Thr Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210 215 220

13-596-WO_SequenceListing_ST25

Ser Ser
225

<210> 114
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv6 LC3 x HC3
<400> 114

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gln Met Thr Leu Lys
100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ser Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Thr Ile
165 170 175

Thr Arg Asp Thr Ser Lys Asn Gln Tyr Tyr Leu Thr Leu Ser Ser Val
180 185 190

Thr Thr Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

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Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210 215 220

Ser Ser
225

<210> 115
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv7 LC4 x HC4

<400> 115

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gln Met Thr Leu Lys
100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ser Val Ser Gly Glu Ser Met Thr Gln Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Thr Ile
165 170 175

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

Thr Thr Val Glu Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

13-596-WO_SequenceListing_ST25

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210 215 220

Ser Ser
225

<210> 116
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv8 LC5a x HC5a

<400> 116

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gln Val Gln Leu Gln
100 105 110

Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr
115 120 125

Cys Thr Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Pro Pro Gly Lys Gly Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Ile Thr Ile
165 170 175

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

13-596-wo_SequenceListing_ST25

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
210 215 220

Ser Ser
225

<210> 117
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv9 LC5b x HC5b

<400> 117

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gln Met Gln Leu Gln
100 105 110

Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr
115 120 125

Cys Thr Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Pro Pro Gly Lys Gly Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Ile Thr Ile
165 170 175

Ser Arg Asp Thr Ser Lys Asn Gln Tyr Ser Leu Lys Leu Ser Ser Val
180 185 190

13-596-WO_SequenceListing_ST25

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
210 215 220

Ser Ser
225

<210> 118
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv10 LC5c x HC5c

<400> 118

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

Glu Arg Ala Thr Leu Ser Cys Lys Ala Ser Gln Asp Ile Asn Ser Tyr
20 25 30

Leu Ser Trp Leu Gln Gln Lys Pro Gly Gln Ala Pro Arg Thr Leu Ile
35 40 45

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

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

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gln Met Gln Leu Gln
100 105 110

Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ala Ile Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Ser Pro Ser Arg Gly Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Ala Val Ser Val Lys Ser Arg Ile Thr Ile
165 170 175

13-596-wo_SequenceListing_ST25

Asn Arg Asp Thr Ser Lys Asn Gln Tyr Ser Leu Gln Leu Ser Val
180 185 190

Thr Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
210 215 220

Ser Ser
225

<210> 119
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv11 LC2 x HC3

<400> 119

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gln Met Thr Leu Lys
100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ser Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Thr Ile
165 170 175

13-596-WO_SequenceListing_ST25

Thr Arg Asp Thr Ser Lys Asn Gln Tyr Tyr Leu Thr Leu Ser Ser Val
180 185 190

Thr Thr Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210 215 220

Ser Ser
225

<210> 120
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv12 LC4 X HC3

<400> 120

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gln Met Thr Leu Lys
100 105 110

Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Ser Leu Thr
115 120 125

Cys Ser Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Phe Pro Gly Lys Ala Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

13-596-wo_SequenceListing_ST25

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Gly Arg Ile Thr Ile
165 170 175

Thr Arg Asp Thr Ser Lys Asn Gln Tyr Tyr Leu Thr Leu Ser Ser Val
180 185 190

Thr Thr Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
210 215 220

Ser Ser
225

<210> 121
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv13 LC2 x HC5b

<400> 121

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gln Met Gln Leu Gln
100 105 110

Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr
115 120 125

Cys Thr Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

Arg Gln Pro Pro Gly Lys Gly Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

13-596-WO_SequenceListing_ST25

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Ile Thr Ile
165 170 175

Ser Arg Asp Thr Ser Lys Asn Gln Tyr Ser Leu Lys Leu Ser Ser Val
180 185 190

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
210 215 220

Ser Ser
225

<210> 122
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> A44-hv14 LC4 x HC5b

<400> 122

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gln Met Gln Leu Gln
100 105 110

Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr
115 120 125

Cys Thr Val Ser Gly Asp Ser Met Thr Asn Gly Tyr Trp Asn Trp Ile
130 135 140

13-596-WO_SequenceListing_ST25

Arg Gln Pro Pro Gly Lys Gly Leu Glu Tyr Met Gly Tyr Ile Thr Tyr
145 150 155 160

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Ile Thr Ile
165 170 175

Ser Arg Asp Thr Ser Lys Asn Gln Tyr Ser Leu Lys Leu Ser Ser Val
180 185 190

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Trp His Tyr Gly
195 200 205

Ser Pro Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
210 215 220

Ser Ser
225

<210> 123
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> HC1a

<400> 123
gagatgaccc tgaaagagtc cggccccacc ctggtcaaac ccaccagac cctgagcctg 60
acctgcagcg tgaccggcga cagcatgacc aacggctact ggaactggat ccggaagtcc 120
cccggcaagg ccctcgagta catgggctac atcacctaca gcggcagcac ctactacaac 180
cccagcctga agggccggat cagcatcacc cggaacacca gcaagaacca gtactacctg 240
accctgtcca gcgtg 255

<210> 124
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> HC1b

<400> 124
gagatgcagc tgcaggaaag cggccctggc ctggtcaaac ccagcgagac actgagcctg 60
acctgcagcg tgaccggcga cagcatgacc aacggctact ggaactggat ccggaagtcc 120
cccggcaagg gcctcgagta catgggctac atcacctaca gcggcagcac ctactacaac 180
cccagcctga agggccggat cagcatcacc cggaacacca gcaagaacca gtactacctg 240
aagctgtcca gcgtg 255

<210> 125
<211> 255
<212> DNA
<213> Artificial Sequence

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<220>

<223> HC2a

<400> 125

gagatgaccc tgaaagagtc cggccccacc ctgggtcaaac ccacccagac cctgagcctg	60
acctgcagcg tgaccggcga gagcatgacc cagggctact ggaactggat ccggaagttc	120
cccggcaagg ccctcgagta catgggctac atcacctaca gcggcagcac ctactacaac	180
cccagcctga agggccggat cagcatcacc cggcagacca gcaagaacca gtactacctg	240
accctgtcca gcgtg	255

<210> 126

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> HC2b

<400> 126

gagatgaccc tgaaagagtc cggccccacc ctgggtcaaac ccacccagac cctgagcctg	60
acctgcagcg tgaccggcga cagcatgacc cagggctact ggaactggat ccggaagttc	120
cccggcaagg ccctcgagta catgggctac atcacctaca gcggcagcac ctactacaac	180
cccagcctga agggccggat cagcatcacc cggaacacca gcaagaacca gtactacctg	240
accctgtcca gcgtg	255

<210> 127

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> HC3

<400> 127

cagatgaccc tgaaagagtc cggccccacc ctgggtcaaac ccacccagac cctgagcctg	60
acctgcagcg tgtccggcga cagcatgacc aacggctact ggaactggat ccggcagttc	120
cccggcaagg ccctcgagta catgggctac atcacctaca gcggcagcac ctactacaac	180
cccagcctga agggccggat caccatcacc cgggacacca gcaagaacca gtactacctg	240
accctgagca gcgtg	255

<210> 128

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> HC4

<400> 128

cagatgaccc tgaaagagtc cggccccacc ctgggtcaaac ccacccagac cctgagcctg	60
acctgcagcg tgtccggcga gagcatgacc cagggctact ggaactggat ccggcagttc	120

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cccggcaagg ccctcgagta catgggctac atcacctaca gcggcagcac ctactacaac 180
cccagcctga agggccggat caccatcacc cggcagacca gcaagaacca gtactacctg 240
accctgagca gcgtg 255

<210> 129
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> HC5a

<400> 129
caggtgcagc tgcaggaaag cggccctggc ctgggtcaaac ccagcgagac actgagcctg 60
acctgcaccg tgtccggcga cagcatgacc aacggctact ggaactggat ccggcagccc 120
cctggcaagg gcctcgagta catgggctac atcacctaca gcggcagcac ctactacaac 180
cccagcctga agtcccggat caccatcagc cggaacacca gcaagaacca gtacagcctg 240
aagctgagca gcgtg 255

<210> 130
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> HC5b

<400> 130
cagatgcagc tgcaggaaag cggccctggc ctgggtcaaac ccagcgagac actgagcctg 60
acctgcaccg tgtccggcga cagcatgacc aacggctact ggaactggat ccggcagccc 120
cctggcaagg gcctcgagta catgggctac atcacctaca gcggcagcac ctactacaac 180
cccagcctga agtcccggat caccatcagc cgggacacca gcaagaacca gtacagcctg 240
aagctgagca gcgtg 255

<210> 131
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> HC5c

<400> 131
cagatgcagc tgcagcagag cggccctggc ctgggtcaaac ccagccagac cctgagcctg 60
acctgcgcca tcagcggcga cagcatgacc aacggctact ggaactggat ccggcagagc 120
cccagcagag gcctcgagta catgggctac atcacctaca gcggcagcac ctactacgcc 180
gtgtccgtga agtcccggat caccatcaac cgggacacca gcaagaacca gtacagcctg 240
cagctgagca gcgtg 255

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<210> 132
 <211> 255
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> LC1a

<400> 132
 gacatcaaga tgaccagag cccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60
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 ggcaagagcc ccaagaccct gatctaccgg gccaacgcga gcgtggacgg cgtgccaagc 180
 agattttccg gcagcggcag cggccaggac tacagcctga ccatcagcag cctgcagccc 240
 gaggacctgg gcatc 255

<210> 133
 <211> 255
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> LC1b

<400> 133
 gacatcaaga tgaccagag cccagcagc gtgtccgtgt ctctggcca gaccgtgacc 60
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 ggccagtccc ccaagaccct gatctaccgg gccaacgcga gcgtggacgg cgtgccaagc 180
 agattttccg gcagcggcag cggccaggac tacagcctga ccatcagcag cctgcaggcc 240
 atggacgagg gcatc 255

<210> 134
 <211> 255
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> LC2

<400> 134
 gacatcaaga tgaccagag cccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60
 atcacatgca aggccagcca ggacatcaac agctacctga gctggctgca gcagaagccc 120
 ggcaagagcc ccaagaccct gatctaccgg gccagcgga gcgtggaagg cgtgccaagc 180
 agattcagcg gcagcggctc cggccaggac tacagcctga ccatcagcag cctgcagccc 240
 gaggacctgg gcatc 255

<210> 135
 <211> 255
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> LC3

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<400> 135
gacatcaaga tgaccagag cccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60
atcacatgca aggccagcca ggacatcaac agctacctga gctggctgca gcagaagccc 120
ggcaagagcc ccaagaccct gatctaccgg gccaacgcga gcgtggacgg cgtgccaagc 180
agattttccg gcagcggcag cggccaggac tacagcctga ccatcagcag cctgcagccc 240
gaggacctgg ccacc 255

<210> 136
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> LC4

<400> 136
gacatcaaga tgaccagag cccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60
atcacatgca aggccagcca ggacatcaac agctacctga gctggctgca gcagaagccc 120
ggcaagagcc ccaagaccct gatctaccgg gccagcggga gcgtggaagg cgtgccaagc 180
agattcagcg gcagcggctc cggccaggac tacagcctga ccatcagcag cctgcagccc 240
gaggacctgg ccacc 255

<210> 137
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> LC5a

<400> 137
gacatccaga tgaccagag cccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60
atcacatgca aggccagcca ggacatcaac agctacctga gctggctgca gcagaagccc 120
ggcaaggccc ccaagctgct gatctaccgg gccaacgcga gcgtggacgg cgtgccaagc 180
agattttccg gcagcggctc cggcaccgac tacaccttca ccatcagcag cctgcagccc 240
gaggatatcg ccacc 255

<210> 138
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> LC5b

<400> 138
gacatccaga tgaccagag cccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60
atcacatgca aggccagcca ggacatcaac agctacctga gctggctgca gcagaagccc 120
ggcaaggccc ccaagaccct gatctaccgg gccaacgcga gcgtggacgg cgtgccaagc 180
agattttccg gcagcggcag cggccaggac tacaccttca ccatcagcag cctgcagccc 240

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gaggatatcg ccacc 255

<210> 139
<211> 255
<212> DNA
<213> Artificial Sequence

<220>
<223> LC5c

<400> 139
gagatcgtga tgaccagag ccccgccacc ctgtctctga gccctggcga gagagccacc 60
ctgagctgca aggccagcca ggacatcaac agctacctga gctggctgca gcagaagccc 120
ggccaggccc ccagaaccct gatctaccgg gccaacagaa gcgtggacgg catccccgcc 180
agattcagcg gcagcggctc cggccaggac tacaccctga ccatcagcag cctggaaccc 240
gaggacttcg ccgtg 255

<210> 140
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> mA44 VH

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

<210> 141
<211> 107

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<212> PRT
<213> Artificial Sequence

<220>
<223> mA44 VL

<400> 141

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

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

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

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

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

Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Pro
85 90 95

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

<210> 142
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> mA44 VL

<400> 142

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

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

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

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

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

Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Pro
85 90 95

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

Pro Thr Val Ser Ile Phe
115

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

<220>
<223> IGKV3-11-02_IGKJ4-0

<400> 143

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

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30

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

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

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

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

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

<210> 144
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> IGHV6-1-02_IGHD6-13-01_IGHJ4-02

<400> 144

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

Thr Leu Ser Leu Thr Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn
20 25 30

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

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Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr Asn Asp Tyr Ala
50 55 60

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

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

Tyr Tyr Cys Ala Arg Gly Tyr Ser Ser Ser Trp Tyr Tyr Phe Asp Tyr
100 105 110

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

<210> 145
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145

Arg Ala Gln
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<210> 146
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 146

Gly Glu Ser Met Thr Gln Gly Tyr
1 5

<210> 147
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 147
Gly Asp Ser Met Thr Gln Gly Tyr
1 5