SEQUENCE LISTING

<110> Merus N.V.

<120> Multivalent antibody

<130> P118963PC00

<150> US 62/650,467
<151> 2018-03-30

<160> 302

<170> PatentIn version 3.5

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Glu Ser Lys Tyr Gly Pro Pro
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Glu Pro Lys Ser Cys Asp Lys Thr His Thr
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<400> 3

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10

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<400> 4

Glu Arg Lys Ser Ser Val Glu Ser Pro Pro Ser Pro
1 5 10

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Glu Arg Lys Cys Ser Val Glu Ser Pro Pro Ser Pro
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Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr
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<210> 7
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<400> 7

Glu Ser Lys Tyr Gly Pro Pro Ser Pro Ser Ser Pro
1 5 10

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<400> 8

Glu Arg Lys Ser Ser Val Glu Ala Pro Pro Val Ala Gly
1 5 10

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<400> 9

Glu Arg Lys Cys Ser Val Glu Ala Pro Pro Val Ala Gly
1 5 10

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<400> 10

Glu Ser Lys Tyr Gly Pro Pro Ala Pro Glu Phe Leu Gly Gly
1 5 10

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<220>
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<400> 11

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Ser Pro Pro Ser Pro
1 5 10 15

<210> 12
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<213> Artificial Sequence

<220>
<223> Linker

<400> 12

Glu Pro Lys Ser Cys Asp Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

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<220>
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<400> 13

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Pro Pro Val Ala Gly
1 5 10 15

<210> 14
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<213> Artificial Sequence

<220>
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<400> 14

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Ala Pro Glu Leu Leu Gly
1 5 10 15

Gly

<210> 15
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<223> Linker

<400> 15

Glu Arg Lys Ser Ser Val Glu Ser Pro Pro Ser Pro Ala Pro Pro Val
1 5 10 15

Ala Gly

<210> 16
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<220>
<223> Linker

<400> 16

Glu Arg Lys Cys Ser Val Glu Ser Pro Pro Ser Pro Ala Pro Pro Val
1 5 10 15

Ala Gly

<210> 17
<211> 19
<212> PRT

<213> Artificial Sequence

<220>
<223> Linker

<400> 17

Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly

<210> 18
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 18

Glu Ser Lys Tyr Gly Pro Pro Ser Pro Ser Ser Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly

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

<220>
<223> Linker

<400> 19

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala
1 5 10 15

Pro Glu Leu Leu Gly Gly
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<213> Artificial Sequence

<220>
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<400> 20

Glu Arg Lys Ser Ser Val Glu Glu Ala Ala Ala Lys Glu Ala Ala Ala
1 5 10 15

Lys Ala Pro Pro Val Ala Gly
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<211> 23
<212> PRT
<213> Artificial Sequence

<220>
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<400> 21

Glu Arg Lys Cys Ser Val Glu Glu Ala Ala Ala Lys Glu Ala Ala Ala
1 5 10 15

Lys Ala Pro Pro Val Ala Gly
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<210> 22
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 22

Glu Ser Lys Tyr Gly Pro Pro Glu Ala Ala Ala Lys Glu Ala Ala Ala

1 5 10 15

Lys Ala Pro Glu Phe Leu Gly Gly
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<210> 23
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 23

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Glu Ala Ala Ala Lys Glu
1 5 10 15

Ala Ala Ala Lys Ala Pro Glu Leu Leu Gly Gly
20 25

<210> 24
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 24

Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Glu Ala Ala Ala
1 5 10 15

Lys Glu Ala Ala Ala Lys Ala Pro Glu Phe Leu Gly Gly
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caactgggtg cgccaggccc ctggacaagg gcttgaatgg atgggatgga tgagcgctaa 180

cactggaaac acgggctatg cacagaagtt ccagggcaga gtcaccatga ccagggacac 240

gtccataaac acagcctaca tggagctgag cagcctgaca tctggtgaca cggccgttta 300

tttctgtgcg aggagtagtc ttttcaagac agagacggcg ccctactatc acttcgctct 360

ggacgtctgg ggccaaggga ccacggtcac cgtctccagt gctagcacca agggccccag 420

cgtgttcccc ctggcccct gcagccggag caccagcgag agcaccgccg ccctgggctg 480

cctggtgaag gactacttcc ccgagcccgt gaccgtgagc tggaacagcg gcgccctgac 540

cagcggcgtg cacaccttcc ccgccgtgct gcagagcagc ggcctgtaca gcctgagcag 600

cgtggtgacg gtgcccagca gcagcctggg caccaagacc tacacctgca acgtggacca 660

caagcccagc aacaccaagg tggacaagcg ggtggagagc aagtacggcc cccccgaggt 720

gcagctggtg gagtctgggg gaggcgtggt ccagcctggg aggtccctga gactctcctg 780

tgcagcctct ggattcacct tcagtagcta tggcatgcac tgggtccgcc aggctccagg 840

caaggggctg gagtgggtgg cagttatatc atatgatgga agtaataaat actatgcaga 900

ctccgtgaag ggccgattca ccatctccag agacaattcc aagaacacgc tgtatctgca 960

aatgaacagc ctgagagctg aggacacggc cgtgtattac tgtgcaagag ccctcttcac 1020

gaccatcgcc atggactatt ggggccaagg taccttgtc accgtctcga gt 1072

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<213> Artificial Sequence

<220>
<223> Translation of MF1122

<400> 26

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

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

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

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

Thr Leu Val Thr
115

<210> 27
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of MF1025

<400> 27

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

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

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

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

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

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

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

Leu Val Thr
115

<210> 28
<211> 124
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<220>
<223> Translation of MF1337

<400> 28

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

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

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

Gly Trp Met Ser Ala Asn Thr Gly Asn Thr Gly Tyr Ala Gln Lys Phe

50 55 60

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

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

Ala Arg Ser Ser Leu Phe Lys Thr Glu Thr Ala Pro Tyr Tyr His Phe
100 105 110

Ala Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr
115 120

<210> 29
<211> 214
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<213> Artificial Sequence

<220>
<223> Translation of common light chain (cLC)

<400> 29

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

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

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

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

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

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

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

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

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 30
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<220>
<223> Primer

<400> 30

Cys Cys Thr Cys Ala Thr Gly Cys Ala Thr Cys Ala Cys Gly Gly Ala
1 5 10 15

Gly Cys Ala Thr Gly
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<210> 31
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Primer

<400> 31

Cys Ala Ala Ala Gly Gly Cys Cys Ala Ala Ala Cys Thr Cys Thr Cys
1 5 10 15

Cys Ala Cys Thr Cys
20

<210> 32
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Primer

<400> 32

Cys Gly Cys Thr Gly Thr Gly Cys Cys Cys Cys Cys Ala Gly Ala Gly
1 5 10 15

Gly Thr Gly Cys
20

<210> 33
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
gtaccggtga attggccgg 19

<210> 34
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Primer

<400> 34

Gly Cys Gly Cys Cys Cys Thr Ala Cys Thr Ala Thr Cys Ala Cys Thr
1 5 10 15

Thr Cys Gly Cys Thr Cys Thr Gly Gly
20 25

<210> 35
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Common light chain

<400> 35

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

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

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

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

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

65 70 75 80

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

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

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

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 36
<211> 321
<212> DNA
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<220>
<223> common light chain variable domain (IGKV1-39/jk1)

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<221> CDS
<222> (1)..(321)

<400> 36
gac atc cag atg acc cag tct cca tcc tcc ctg tct gca tct gta gga 48
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

gac aga gtc acc atc act tgc cgg gca agt cag agc att agc agc tac 96
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

tta aat tgg tat cag cag aaa cca ggg aaa gcc cct aag ctc ctg atc 144
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

tat gct gca tcc agt ttg caa agt ggg gtc cca tca agg ttc agt ggc 192
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

agt gga tct ggg aca gat ttc act ctc acc atc agc agt ctg caa cct 240
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

gaa gat ttt gca act tac tac tgt caa cag agt tac agt acc cct cca 288
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Pro
85 90 95

acg ttc ggc caa ggg acc aag gtg gag atc aaa 321
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 37
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 37

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

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

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

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

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

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

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

<210> 38
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> common light chain constant region

<220>
<221> CDS
<222> (1)..(324)

<400> 38
cga act gtg gct gca cca tct gtc ttc atc ttc ccg cca tct gat gag 48
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1 5 10 15

cag ttg aaa tct gga act gcc tct gtt gtg tgc ctg ctg aat aac ttc 96
Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
20 25 30

tat ccc aga gag gcc aaa gta cag tgg aag gtg gat aac gcc ctc caa 144
Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
35 40 45

tcg ggt aac tcc cag gag agt gtc aca gag cag gac agc aag gac agc 192

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

acc tac agc ctc agc agc acc ctg acg ctg agc aaa gca gac tac gag 240
Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65 70 75 80

aaa cac aaa gtc tac gcc tgc gaa gtc acc cat cag ggc ctg agc tcg 288
Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
85 90 95

ccc gtc aca aag agc ttc aac agg gga gag tgt tag 324
Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 39
<211> 107
<212> PRT
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<400> 39

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> 40
<211> 108
<212> PRT
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<223> IGKV1-39/jk5 common light chain variable domain

<400> 40

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

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

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

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

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

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

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

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

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<223> V-region IGKV1-39A

<400> 41

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

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

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

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

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

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

<210> 42
<211> 22
<212> PRT
<213> Homo sapiens

<400> 42

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10 15

Pro Glu Leu Leu Gly Gly
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<210> 43
<211> 10
<212> PRT
<213> Homo sapiens

<400> 43

Glu Pro Lys Ser Cys Asp Lys Thr His Thr
1 5 10

<210> 44
<211> 5
<212> PRT
<213> Homo sapiens

<400> 44

Cys Pro Pro Cys Pro
1 5

<210> 45
<211> 7
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<213> Homo sapiens

<400> 45

Ala Pro Glu Leu Leu Gly Gly
1 5

<210> 46
<211> 18
<212> PRT
<213> Homo sapiens

<400> 46

Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val
1 5 10 15

Ala Gly

<210> 47
<211> 7
<212> PRT
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<400> 47

Glu Arg Lys Cys Cys Val Glu
1 5

<210> 48
<211> 5
<212> PRT
<213> Homo sapiens

<400> 48

Cys Pro Pro Cys Pro
1 5

<210> 49
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<213> Homo sapiens

<400> 49

Ala Pro Pro Val Ala Gly
1 5

<210> 50
<211> 69
<212> PRT
<213> Homo sapiens

<400> 50

Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Cys Pro Arg Cys
1 5 10 15

Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro
20 25 30

Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu
35 40 45

Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala Pro
50 55 60

Glu Phe Leu Gly Gly
65

<210> 51
<211> 12
<212> PRT
<213> Homo sapiens

<400> 51

Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr
1 5 10

<210> 52
<211> 50
<212> PRT
<213> Homo sapiens

<400> 52

Cys Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys
1 5 10 15

Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro
20 25 30

Arg Cys Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg
35 40 45

Cys Pro
50

<210> 53
<211> 7
<212> PRT
<213> Homo sapiens

<400> 53

Ala Pro Glu Phe Leu Gly Gly
1 5

<210> 54
<211> 19
<212> PRT
<213> Homo sapiens

<400> 54

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly

<210> 55
<211> 7
<212> PRT
<213> Homo sapiens

<400> 55

Glu Ser Lys Tyr Gly Pro Pro
1 5

<210> 56
<211> 5
<212> PRT
<213> Homo sapiens

<400> 56

Cys Pro Ser Cys Pro
1 5

<210> 57
<211> 7
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<213> Homo sapiens

<400> 57

Ala Pro Glu Phe Leu Gly Gly
1 5

<210> 58

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

<220>
<223> Synthetic construct

<400> 58

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Pro
20 25 30

Glu Leu Leu Gly Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val
35 40 45

Val Gln Pro Gly
50

<210> 59
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<212> PRT
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<220>
<223> Synthetic construct

<400> 59

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Lys Thr His Thr Ser Pro Pro Ser Pro Glu Val
20 25 30

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40 45

<210> 60
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<212> PRT
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<220>
<223> Synthetic construct

<400> 60

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Lys Thr His Thr Glu Val Gln Leu Val Glu Ser
20 25 30

Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 61
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 61

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
20 25 30

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40 45

<210> 62
<211> 57
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 62

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Lys Thr His Thr Glu Ala Ala Ala Lys Glu Ala
20 25 30

Ala Ala Lys Ala Pro Glu Leu Leu Gly Gly Glu Val Gln Leu Val Glu
35 40 45

Ser Gly Gly Gly Val Val Gln Pro Gly
50 55

<210> 63
<211> 47
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 63

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Lys Thr His Thr Ala Pro Glu Leu Leu Gly Gly
20 25 30

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40 45

<210> 64
<211> 48
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 64

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

Arg Lys Ser Ser Val Glu Ser Pro Pro Ser Pro Ala Pro Pro Val Ala
20 25 30

Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40 45

<210> 65
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 65

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

Arg Lys Ser Ser Val Glu Ser Pro Pro Ser Pro Glu Val Gln Leu Val
20 25 30

Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 66
<211> 43
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 66

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

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

Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 67
<211> 48
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 67

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

Arg Lys Cys Ser Val Glu Ser Pro Pro Ser Pro Ala Pro Pro Val Ala
20 25 30

Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40 45

<210> 68
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 68

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

Arg Lys Cys Ser Val Glu Ser Pro Pro Ser Pro Glu Val Gln Leu Val
20 25 30

Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 69
<211> 43
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 69

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

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

Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 70
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 70

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

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Pro Pro Val Ala Gly Glu
20 25 30

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40 45

<210> 71

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

<220>
<223> Synthetic construct

<400> 71

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

Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser
20 25 30

Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 72
<211> 53
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 72

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

Arg Lys Ser Ser Val Glu Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys
20 25 30

Ala Pro Pro Val Ala Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly
35 40 45

Val Val Gln Pro Gly
50

<210> 73
<211> 53

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 73

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu
1 5 10 15

Arg Lys Cys Ser Val Glu Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys
20 25 30

Ala Pro Pro Val Ala Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly
35 40 45

Val Val Gln Pro Gly
50

<210> 74
<211> 49
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 74

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Ala Pro Glu Phe Leu
20 25 30

Gly Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
35 40 45

Gly

<210> 75
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 75

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Glu Val Gln Leu Val
20 25 30

Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 76
<211> 59
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 76

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Glu Ala Ala Ala Lys
20 25 30

Glu Ala Ala Ala Lys Ala Pro Glu Phe Leu Gly Gly Glu Val Gln Leu
35 40 45

Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
50 55

<210> 77
<211> 49
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 77

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Ser Lys Tyr Gly Pro Pro Ser Pro Ser Ser Pro Ala Pro Glu Phe Leu
20 25 30

Gly Gly Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
35 40 45

Gly

<210> 78
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 78

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Ser Lys Tyr Gly Pro Pro Ser Pro Ser Ser Pro Glu Val Gln Leu Val
20 25 30

Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 79

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

<220>
<223> Synthetic construct

<400> 79

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Ser Lys Tyr Gly Pro Pro Ala Pro Glu Phe Leu Gly Gly Glu Val Gln
20 25 30

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly
35 40

<210> 80
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 80

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Ser Lys Tyr Gly Pro Pro Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Val Val Gln Pro Gly
35

<210> 81
<211> 54
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic construct

<400> 81

Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Ser Lys Tyr Gly Pro Pro Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys
20 25 30

Ala Pro Glu Phe Leu Gly Gly Glu Val Gln Leu Val Glu Ser Gly Gly
35 40 45

Gly Val Val Gln Pro Gly
50

<210> 82
<211> 52
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic construct

<400> 82

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
1 5 10 15

Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro
20 25 30

Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
35 40 45

Asp Thr Leu Met
50

<210> 83
<211> 369
<212> DNA

<213> Artificial Sequence

<220>
<223> MF6744

<400> 83
gaggtgcagc tggtgcagtc tggagcagag gtgaaaaagc ccggggagtc actgaaaatc 60

tcctgtaagg gttctggata cagctttacc agctactgga tcggctgggt gcgccagatg 120

cccgggaaag gcctggagtg gatggggatc atctttcctg atgactctga taccagatac 180

agtccgtcct tccaaggcca ggtcaccatc tcagccgaca agtccatcag taccgcctac 240

ctgcagtgga gcagcctgaa accctcggac accgccatgt attactgtgt gagacttggt 300

ggatatagtg gctacgctga ggattttgtt gacttctggg gccagggaac cctggtcacc 360

gtctccagt 369

<210> 84
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF6744 FW1

<400> 84

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

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

<210> 85
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF6744 FW2

<400> 85

Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met Gly
1 5 10

<210> 86
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF6744 FW3

<400> 86

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

Trp Ser Ser Leu Lys Pro Ser Asp Thr Ala Met Tyr Tyr Cys Val Arg
20 25 30

<210> 87
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> FW4

<400> 87

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

<210> 88
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF6744 CDR1

<400> 88

Ser Tyr Trp Ile Gly
1 5

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

<220>
<223> MF6744 CDR2

<400> 89

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

Gly

<210> 90
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF6744 CDR3

<400> 90

Leu Gly Gly Tyr Ser Gly Tyr Ala Glu Asp Phe Val Asp Phe
1 5 10

<210> 91
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> MF6744 VH

<400> 91

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

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

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

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

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

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

Val Arg Leu Gly Gly Tyr Ser Gly Tyr Ala Glu Asp Phe Val Asp Phe
100 105 110

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

<210> 92
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> MF8057

<400> 92
gaggtgcagc tggtgcagtc tggagctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60

tcctgcaagg cttctggagg caccttccgc agctttggta tcagttgggt gcgacaggcc 120

cctggacaag gacttgagtg gatgggagga ttcatccctg tccttggtac agcaaactac 180

gcacagaaat tccagggcag agtgacgatt atcgcggaca aatccacgaa cacagcctac 240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gcgaaggggt 300

aactggaacc cgttcgaccc ctggggccag ggaaccctgg tcaccgtctc gagt 354

<210> 93

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

<220>
<223> MF8057 FW1

<400> 93

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

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

<210> 94
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8057 FW2

<400> 94

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 95
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8057 FW3

<400> 95

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

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

<210> 96
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8057 FW4

<400> 96

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

<210> 97
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8057 CDR1

<400> 97

Ser Phe Gly Ile Ser
1 5

<210> 98
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8057 CDR2

<400> 98

Gly Phe Ile Pro Val Leu Gly Thr Ala Asn Tyr Ala Gln Lys Phe Gln
1 5 10 15

Gly

<210> 99
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<223> MF8057 CDR3

<400> 99

Arg Gly Asn Trp Asn Pro Phe Asp Pro
1 5

<210> 100
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8057 VH

<400> 100

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

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

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

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

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

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

Ala Arg Arg Gly Asn Trp Asn Pro Phe Asp Pro Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 101
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> MF8058

<400> 101
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60

tcctgcaagg cttctggaga cgccttcaaa agcaaaacct ttactatcag ctgggtgcga 120

caggcccctg gacaggggct tgagtggctg ggggggatca tccctctttt tggtacaatt 180

acctacgcac agaagttcca gggcagagtc acgattaccg cggacaaatc cacgaacact 240

gccttcatgg aactgagcag cctgagatct gaggacacgg ccatgtatta ttgtacgcga 300

cgggggaact ggaacccctt cgacccctgg ggccagggaa ccctggtcac cgtctcgagt 360

<210> 102
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 FW1

<400> 102

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Asp Ala Phe Lys
20 25 30

<210> 103
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 FW2

<400> 103

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Leu Gly
1 5 10

<210> 104
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 FW3

<400> 104

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

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys Thr Arg
20 25 30

<210> 105
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 FW4

<400> 105

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

<210> 106
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 CDR1

<400> 106

Ser Lys Thr Phe Thr Ile Ser
1 5

<210> 107
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 CDR2

<400> 107

Gly Ile Ile Pro Leu Phe Gly Thr Ile Thr Tyr Ala Gln Lys Phe Gln
1 5 10 15

Gly

<210> 108
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 CDR3

<400> 108

Arg Gly Asn Trp Asn Pro Phe Asp Pro
1 5

<210> 109
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8058 VH

<400> 109

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

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Asp Ala Phe Lys Ser Lys
20 25 30

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

Trp Leu Gly Gly Ile Ile Pro Leu Phe Gly Thr Ile Thr Tyr Ala Gln
50 55 60

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

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

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

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 110
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> MF8078

<400> 110
gaggtgcagc tggtgcagtc tgggtctgag ttgaagaagc ctgggtcctc ggtgaaggtc 60

tcctgcaagg cttctggagt caccttcaac agcagaacct ttactatcag ttgggtgcga 120

caggcccctg gacaagggct tgagtggctg gggagtatca tccctatttt tggtacaata 180

acctacgcac agaagttcca gggcagagtc acgattaccg cggacaaatc cacgagcact 240

gccttcatgg aactgaccag cctgagatct gaggacacgg ccatatatta ttgtacgaga 300

cgggggaact ggaacccctt cgacccctgg ggccagggca ccctggtcac cgtctcgagt 360

<210> 111
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 FW1

<400> 111

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

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

<210> 112
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 FW2

<400> 112

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Leu Gly
1 5 10

<210> 113
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 FW3

<400> 113

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

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

<210> 114
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 FW4

<400> 114

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

<210> 115
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 CDR1

<400> 115

Ser Arg Thr Phe Thr Ile Ser
1 5

<210> 116
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 CDR2

<400> 116

Ser Ile Ile Pro Ile Phe Gly Thr Ile Thr Tyr Ala Gln Lys Phe Gln
1 5 10 15

Gly

<210> 117
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 CDR3

<400> 117

Arg Gly Asn Trp Asn Pro Phe Asp Pro
1 5

<210> 118
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8078 VH

<400> 118

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

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

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

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

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

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

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

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 119
<211> 369
<212> DNA
<213> Artificial Sequence

<220>
<223> MF8397

<400> 119
caggtgcagc tggtgcagtc tgggggaggc ctggtacagc ctgggggtc cctgagactc 60

tcctgtgcaa cctctggatt caaattcagt agctatgccc tgagctgggt ccgccaggca 120

ccagggaagg gactggagtg ggtctcaggt attagtggta gtggtcgcac cacatggtat 180

gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gagagacggt 300

ggatacagct atggccctta ctggtacttc gatctctggg gccgtggaac cctggtcacc 360

gtctccagt 369

<210> 120
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 FW1

<400> 120

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

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

<210> 121
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 FW2

<400> 121

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

<210> 122
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 FW3

<400> 122

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

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 123
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 FW4

<400> 123

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 124

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

<220>
<223> MF8397 CDR1

<400> 124

Ser Tyr Ala Leu Ser
1 5

<210> 125
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 CDR2

<400> 125

Gly Ile Ser Gly Ser Gly Arg Thr Thr Trp Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 126
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 CDR3

<400> 126

Asp Gly Gly Tyr Ser Tyr Gly Pro Tyr Trp Tyr Phe Asp Leu
1 5 10

<210> 127
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8397 VH

<400> 127

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

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

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

Ser Gly Ile Ser Gly Ser Gly Arg Thr Thr Trp Tyr Ala Asp Ser Val
50 55 60

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

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

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

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

<210> 128
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> MF8508

<400> 128
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tcctgtgcaa cctctggatt caactttgat gattatacca tgcactgggt ccggcaagct 120

ccagggaagg gcctggagtg ggtctcagat attagttgga gtagtggtag cataggctat 180

gcggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgtgg 240

ctgcaaatga acagtctgag aactgaggac acggccttgt atttctgtgc aaaagatcat 300

aggggggtacg gtgactacga gggtggtggc tttgactact ggggccaggg aaccctggtc 360

accgtctcca gt 372

<210> 129
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 FW1

<400> 129

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

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

<210> 130
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 FW2

<400> 130

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

<210> 131
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 FW3

<400> 131

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Trp Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Thr Glu Asp Thr Ala Leu Tyr Phe Cys Ala Lys
20 25 30

<210> 132
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 FW4

<400> 132

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

<210> 133
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 CDR1

<400> 133

Asp Tyr Thr Met His
1 5

<210> 134
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 CDR2

<400> 134

Asp Ile Ser Trp Ser Ser Gly Ser Ile Gly Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 135
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 CDR3

<400> 135

Asp His Arg Gly Tyr Gly Asp Tyr Glu Gly Gly Gly Phe Asp Tyr
1 5 10 15

<210> 136
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8508 VH

<400> 136

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

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

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

Ser Asp Ile Ser Trp Ser Ser Gly Ser Ile Gly Tyr Ala Asp Ser Val
50 55 60

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

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

Ala Lys Asp His Arg Gly Tyr Gly Asp Tyr Glu Gly Gly Gly Phe Asp
100 105 110

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

<210> 137
<211> 378
<212> DNA
<213> Artificial Sequence

<220>
<223> MF9249

<400> 137
gaggtgcagc tggtgcagtc tggagcagaa gtgaaaaagc ccggggagtc tctgaagatc 60

tcctgtaagg gttctggata cagttttact aggttttgga tcggctgggt gcgccagatg 120

cccgggaaag gcctggagtg gatggggatc atctatcctg gtgactctga taccagatac 180

agcccgtcct tccaaggcca ggtcaccatc tcagccgaca agtccaccag taccgcctac 240

ctgcagtgga gcagcctgaa ggcctcggac accggcatgt attattgtgt gagacatata 300

cgatattttg actggtcgga agactaccac tattacctgg acgtctgggg caaagggacc 360

acggtcaccg tctccagt 378

<210> 138
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 FW1

<400> 138

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

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

<210> 139
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 FW2

<400> 139

Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met Gly
1 5 10

<210> 140
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 FW3

<400> 140

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

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

<210> 141
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> MF9249 FW4

<400> 141

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

<210> 142
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 CDR1

<400> 142

Arg Phe Trp Ile Gly
1 5

<210> 143
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 CDR2

<400> 143

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

Gly

<210> 144
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 CDR3

<400> 144

His Ile Arg Tyr Phe Asp Trp Ser Glu Asp Tyr His Tyr Tyr Leu Asp
1 5 10 15

Val

<210> 145
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9249 VH

<400> 145

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

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

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

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

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

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

Val Arg His Ile Arg Tyr Phe Asp Trp Ser Glu Asp Tyr His Tyr Tyr
100 105 110

Leu Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 146
<211> 378
<212> DNA
<213> Artificial Sequence

<220>
<223> MF9267

<400> 146
gaggtgcagc tggtggagtc tggggcagag gtgaaaaagc ccggggagtc tctgaagatc 60

tcctgtaagg gttctggata cagttttact aggtattgga tcggctgggt gcgccagatg 120

cccgggaaag gcctggagtg gatggggatc atctatcctg gtgactctga taccagatac 180

agcccgtcct tccaaggcca ggtcaccatc tcagccgaca agtccatcag tactgcctac 240

ctgcagtgga gcagcctgaa ggcctcggac accgccatgt attattgtgt gagaaatata 300

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acggtcaccg tctccagt 378

<210> 147
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 FW1

<400> 147

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

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

<210> 148
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 FW2

<400> 148

Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met Gly
1 5 10

<210> 149
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 FW3

<400> 149

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

Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys Val Arg
20 25 30

<210> 150
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 FW4

<400> 150

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

<210> 151
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 CDR1

<400> 151

Arg Tyr Trp Ile Gly
1 5

<210> 152
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 CDR2

<400> 152

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

Gly

<210> 153
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 CDR3

<400> 153

Asn Ile Arg Tyr Phe Val Trp Ser Glu Asp Tyr His Tyr Tyr Met Asp
1 5 10 15

Val

<210> 154
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9267 VH

<400> 154

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

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

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

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

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

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

Val Arg Asn Ile Arg Tyr Phe Val Trp Ser Glu Asp Tyr His Tyr Tyr
100 105 110

Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 155
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> MF5377

<400> 155
gaggtgcagc tggtgcagtc tggagctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60

tcctgcaagg cttctggagg catcttcagc acctatgcta tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggaggg atcatcccta tctttgatac accaaactac 180

gcacagaagt tccagggcag agtcacgatt accgcggaca aatccacgag cacagcctac 240

atggacctga gcagcctgag atctgaggac acggccgtat attactgtgc gaaaaacgtg 300

cgtggatata gtgcctacga ccttgactac tggggccagg gcaccctggt caccgtctcc 360

agt 363

<210> 156
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 FW1

<400> 156

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

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

<210> 157
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 FW2

<400> 157

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 158
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 FW3

<400> 158

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

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

<210> 159
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 FW4

<400> 159

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

<210> 160
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 CDR1

<400> 160

Thr Tyr Ala Ile Ser
1 5

<210> 161
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 CDR2

<400> 161

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

Gly

<210> 162
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 CDR3

<400> 162

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

<210> 163
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5377 VH

<400> 163

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

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

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

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

Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr

65 70 75 80

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

Ala Lys Asn Val Arg Gly Tyr Ser Ala Tyr Asp Leu Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 164
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> MF5444

<400> 164
caggtgcagc tggtgcaatc tgggtctgag ttgaagaagc ctggggcctc agtgaaggtt 60

tcctgcaagg cttctggata caccttcact agctattcta tgaattgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcaacacca acactgggaa cccaacgtat 180

gcccagggct tcacaggacg gtttgtcttc tccttggaca cctctgtcag cacggcatat 240

ctgcagatca gcagcctaaa ggctgaggac actgccgtgt attactgtgc gagagatcac 300

gattttcgga ctgggagggc ttttgatatc tggggccaag ggaccacggt caccgtctcc 360

agt 363

<210> 165
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 FW1

<400> 165

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

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

<210> 166
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 FW2

<400> 166

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 167
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 FW3

<400> 167

Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr Leu Gln
1 5 10 15

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

<210> 168
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 FW4

<400> 168

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

<210> 169
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 CDR1

<400> 169

Ser Tyr Ser Met Asn
1 5

<210> 170
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 CDR2

<400> 170

Trp Ile Asn Thr Asn Thr Gly Asn Pro Thr Tyr Ala Gln Gly Phe Thr
1 5 10 15

Gly

<210> 171
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 CDR3

<400> 171

Asp His Asp Phe Arg Thr Gly Arg Ala Phe Asp Ile
1 5 10

<210> 172
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5444 VH

<400> 172

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

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

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

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

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

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

Ala Arg Asp His Asp Phe Arg Thr Gly Arg Ala Phe Asp Ile Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 173
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> MF5380

<400> 173
gaggtgcagc tggtggagtc tgggggagac gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca actccaagag cacgctgttt 240

ctgcaaatga acagcctgag agctgaggac acggctgtgt atttctgtgt gagaggcctc 300

cccataacta tggttcgggg agcgtactcc tttgactact ggggccaggg caccctggtc 360

accgtctcca gt 372

<210> 174
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 FW1

<400> 174

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

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

<210> 175
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 FW2

<400> 175

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
1 5 10

<210> 176
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 FW3

<400> 176

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

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys Val Arg
20 25 30

<210> 177
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 FW4

<400> 177

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

<210> 178
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 CDR1

<400> 178

Ser Tyr Gly Met His
1 5

<210> 179

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

<220>
<223> MF5380 CDR2

<400> 179

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

Gly

<210> 180
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 CDR3

<400> 180

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

<210> 181
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> MF5380 VH

<400> 181

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

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

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

Val Arg Gly Leu Pro Ile Thr Met Val Arg Gly Ala Tyr Ser Phe Asp
100 105 110

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

<210> 182
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> MF8233

<400> 182
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tcctgcaagg cttctggtta cacctttacc agctatggta tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcagcgctt acaatgccaa cacaaactat 180

gcacagaagc tccagggcag agtcaccatg accacagaca catccacgag cacagcctac 240

atggagctga ggagcctgag atctgacgac acggctgtgt attactgtgc aaaagatcgt 300

cattggcatt ggtggctgga cgcctttgat tattggggcc aaggtaccct ggtcaccgtc 360

tccagt 366

<210> 183

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

<220>
<223> MF8233 FW1

<400> 183

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

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

<210> 184
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8233 FW2

<400> 184

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 185
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8233 FW3

<400> 185

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

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

<210> 186
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8233 FW4

<400> 186

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

<210> 187
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8233 CDR1

<400> 187

Ser Tyr Gly Ile Ser
1 5

<210> 188
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8233 CDR2

<400> 188

Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu Gln
1 5 10 15

Gly

<210> 189
<211> 13
<212> PRT

<213> Artificial Sequence

<220>
<223> MF8233 CDR3

<400> 189

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

<210> 190
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> MF8233 VH

<400> 190

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

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

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

Gly Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu
50 55 60

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

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

Ala Lys Asp Arg His Trp His Trp Trp Leu Asp Ala Phe Asp Tyr Trp
100 105 110

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

<210> 191
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> MF9891

<400> 191
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tcctgcaagg cttctggtta cacctttacc agctatggta tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcagcgctt acaatgccaa cacaaactat 180

gcacagaagc tccagggcag agtcaccatg accacagaca catccacgag cacagcctac 240

atggagctga ggagcctgag atctgacgac acggctgtgt attactgtgc aaaagatctg 300

tacggtcatt ggtggctgga tgcctttgat tattggggcc aaggtaccct ggtcaccgtc 360

tccagt 366

<210> 192
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9891 FW1

<400> 192

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

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

<210> 193
<211> 14
<212> PRT

<213> Artificial Sequence

<220>
<223> MF9891 FW2

<400> 193

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 194
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9891 FW3

<400> 194

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

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

<210> 195
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9891 FW4

<400> 195

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

<210> 196
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> MF9891 CDR1

<400> 196

Ser Tyr Gly Ile Ser
1 5

<210> 197
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9891 CDR2

<400> 197

Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu Gln
1 5 10 15

Gly

<210> 198
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9891 CDR3

<400> 198

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

<210> 199
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9891 VH

<400> 199

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

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

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

Gly Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu
50 55 60

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

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

Ala Lys Asp Leu Tyr Gly His Trp Trp Leu Asp Ala Phe Asp Tyr Trp
100 105 110

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

<210> 200
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> MF9886

<400> 200
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tcctgcaagg cttctggtta cacctttacc agctatggta tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcagcgctt acaatgccaa cacaaactat 180

gcacagaagc tccagggcag agtcaccatg accacagaca catccacgag cacagcctac 240

atggagctga ggagcctgag atctgacgac acggctgtgt attactgtgc aaaaggtcca 300

ggttctcatt ggtggctgga tgcctttgat tattggggcc aaggtaccct ggtcaccgtc 360

tccagt 366

<210> 201
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 FW1

<400> 201

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

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

<210> 202
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 FW2

<400> 202

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 203
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 FW3

<400> 203

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

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

<210> 204
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 FW4

<400> 204

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

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

<220>
<223> MF9886 CDR1

<400> 205

Ser Tyr Gly Ile Ser
1 5

<210> 206
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 CDR2

<400> 206

Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu Gln
1 5 10 15

Gly

<210> 207
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 CDR3

<400> 207

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

<210> 208
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9886 VH

<400> 208

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

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

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

Gly Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu
50 55 60

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

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

Ala Lys Gly Pro Gly Ser His Trp Trp Leu Asp Ala Phe Asp Tyr Trp
100 105 110

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

<210> 209
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> MF9873

<400> 209
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tcctgcaagg cttctggtta cacctttacc agctatggta tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcagcgctt acaatgccaa cacaaactat 180

gcacagaagc tccagggcag agtcaccatg accacagaca catccacgag cacagcctac 240

atggagctga ggagcctgag atctgacgac acggctgtgt attactgtgc aaaagataga 300

ggttggcatt ggtggctgga tgcctttgat tattggggcc aaggtaccct ggtcaccgtc 360

tccagt 366

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

<220>
<223> MF9873 FW1

<400> 210

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

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

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

<220>
<223> MF9873 FW2

<400> 211

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

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

<220>
<223> MF9873 FW3

<400> 212

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

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

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

<220>
<223> MF9873 FW4

<400> 213

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

1 5 10

<210> 214
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9873 CDR1

<400> 214

Ser Tyr Gly Ile Ser
1 5

<210> 215
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9873 CDR2

<400> 215

Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu Gln
1 5 10 15

Gly

<210> 216
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9873 CDR3

<400> 216

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

<210> 217
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9873 VH

<400> 217

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

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

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

Gly Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu
50 55 60

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

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

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

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

<210> 218
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> MF9988

<400> 218
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tcctgcaagg cttctggtta cacctttacc agctatggta tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcagcgctt acaatgccaa cacaaactat 180

gcacagaagc tccagggcag agtcaccatg accacagaca catccacgag cacagcctac 240

atggagctga ggagcctgag atctgacgac acggctgtgt attactgtgc aaaagatcgt 300

cattggcatt ggtggctgga cggctttgat tattggggcc aaggtaccct ggtcaccgtc 360

tcgagtgtct ccagt 375

<210> 219
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9988 FW1

<400> 219

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

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

<210> 220
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9988 FW2

<400> 220

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 221
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9988 FW3

<400> 221

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

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

<210> 222
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9988 FW4

<400> 222

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

<210> 223
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9988 CDR1

<400> 223

Ser Tyr Gly Ile Ser
1 5

<210> 224
<211> 17
<212> PRT

<213> Artificial Sequence

<220>
<223> MF9988 CDR2

<400> 224

Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu Gln
1 5 10 15

Gly

<210> 225
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> MF9988 CDR3

<400> 225

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

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

<220>
<223> MF9988 VH

<400> 226

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

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

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

Gly Trp Ile Ser Ala Tyr Asn Ala Asn Thr Asn Tyr Ala Gln Lys Leu
50 55 60

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

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

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

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

<210> 227
<211> 381
<212> DNA
<213> Artificial Sequence

<220>
<223> MF1337

<400> 227
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tcctgcaagg cttctgacta catcttcacc aaatatgaca tcaactgggt gcgccaggcc 120

cctggacaag ggcttgaatg gatgggatgg atgagcgcta acactggaaa cacgggctat 180

gcacagaagt tccagggcag agtcaccatg accagggaca cgtccataaa cacagcctac 240

atggagctga gcagcctgac atctggtgac acggccgttt atttctgtgc gaggagtagt 300

cttttcaaga cagagacggc gccctactat cacttcgctc tggacgtctg gggccaaggg 360

accacggtca ccgtctccag t 381

<210> 228
<211> 30
<212> PRT

<213> Artificial Sequence

<220>
<223> MF1337 FW1

<400> 228

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

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

<210> 229
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1337 FW2

<400> 229

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 230
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1337 FW3

<400> 230

Arg Val Thr Met Thr Arg Asp Thr Ser Ile Asn Thr Ala Tyr Met Glu
1 5 10 15

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

<210> 231
<211> 11

<212> PRT
<213> Artificial Sequence

<220>
<223> MF1337 FW4

<400> 231

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

<210> 232
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR1

<400> 232

Lys Tyr Asp Ile Asn
1 5

<210> 233
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1337 CDR2

<400> 233

Trp Met Ser Ala Asn Thr Gly Asn Thr Gly Tyr Ala Gln Lys Phe Gln
1 5 10 15

Gly

<210> 234
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1337 CDR3

<400> 234

Ser Ser Leu Phe Lys Thr Glu Thr Ala Pro Tyr Tyr His Phe Ala Leu
1 5 10 15

Asp Val

<210> 235
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1337 VH

<400> 235

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

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

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

Gly Trp Met Ser Ala Asn Thr Gly Asn Thr Gly Tyr Ala Gln Lys Phe
50 55 60

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

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

Ala Arg Ser Ser Leu Phe Lys Thr Glu Thr Ala Pro Tyr Tyr His Phe
100 105 110

Ala Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 236
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> MF1122

<400> 236
gaggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agctgaggac acggccgtgt attactgtgc aagagccctc 300

ttcacgacca tcgccatgga ctattggggc caaggtaccc tggtcaccgt ctccagt 357

<210> 237
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1122 FW1

<400> 237

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

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

<210> 238
<211> 14
<212> PRT

<213> Artificial Sequence

<220>
<223> MF1122 FW2

<400> 238

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
1 5 10

<210> 239
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1122 FW3

<400> 239

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

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 240
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1122 FW4

<400> 240

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

<210> 241
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> MF1122 CDR1

<400> 241

Ser Tyr Gly Met His
1 5

<210> 242
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1122 CDR2

<400> 242

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

Gly

<210> 243
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1122 CDR3

<400> 243

Ala Leu Phe Thr Thr Ile Ala Met Asp Tyr
1 5 10

<210> 244
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1122 VH

<400> 244

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

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

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

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

Thr Leu Val Thr Val Ser Ser
115

<210> 245
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> MF1025

<400> 245
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60

tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120

ccagggaagg ggctggagtg ggtctcagct attagtggta gtggtggtag cacatactac 180

gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggccgtgt attactgtgc aagggccgat 300

tggtgggcga cttttgacta ctggggccaa ggtaccctgg tcaccgtctc cagt 354

<210> 246
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 FW1

<400> 246

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

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

<210> 247
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 FW2

<400> 247

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

<210> 248
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 FW3

<400> 248

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

1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 249
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 FW4

<400> 249

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

<210> 250
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 CDR1

<400> 250

Ser Tyr Ala Met Ser
1 5

<210> 251
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 CDR2

<400> 251

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

Gly

<210> 252
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 CDR3

<400> 252

Ala Asp Trp Trp Ala Thr Phe Asp Tyr
1 5

<210> 253
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> MF1025 VH

<400> 253

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

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

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

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

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

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

85 90 95

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

Leu Val Thr Val Ser Ser
115

<210> 254
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain CDR1

<400> 254

Gln Ser Ile Ser Ser Tyr
1 5

<210> 255
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain CDR2

<400> 255

Ala Ala Ser
1

<210> 256
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain CDR3

<400> 256

Gln Gln Ser Tyr Ser Thr Pro
1 5

<210> 257
<211> 290
<212> PRT
<213> Homo sapiens

<400> 257

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu
1 5 10 15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr
20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile
50 55 60

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

Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn
85 90 95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
100 105 110

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr
245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys
260 265 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu
275 280 285

Glu Thr
290

<210> 258
<211> 1210
<212> PRT
<213> Homo sapiens

<400> 258

Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala
1 5 10 15

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

Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe
35 40 45

Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

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

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
100 105 110

Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145 150 155 160

Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
165 170 175

Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg

210 215 220

Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
305 310 315 320

Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
340 345 350

Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
370 375 380

Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
485 490 495

Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
610 615 620

Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
625 630 635 640

Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu
645 650 655

Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His
660 665 670

Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu
675 680 685

Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu
690 695 700

Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser
705 710 715 720

Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu
725 730 735

Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser
740 745 750

Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser
755 760 765

Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser
770 775 780

Thr Val Gln Leu Ile Thr Gln Leu Met Pro Phe Gly Cys Leu Leu Asp
785 790 795 800

Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu Leu Asn
805 810 815

Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg
820 825 830

Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro
835 840 845

Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu Gly Ala
850 855 860

Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp
865 870 875 880

Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp
885 890 895

Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser
900 905 910

Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu
915 920 925

Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr
930 935 940

Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys
945 950 955 960

Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln
965 970 975

Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro
980 985 990

Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp Met Asp

995 1000 1005

Asp Val Val Asp Ala Asp Glu Tyr Leu Ile Pro Gln Gln Gly Phe
1010 1015 1020

Phe Ser Ser Pro Ser Thr Ser Arg Thr Pro Leu Leu Ser Ser Leu
1025 1030 1035

Ser Ala Thr Ser Asn Asn Ser Thr Val Ala Cys Ile Asp Arg Asn
1040 1045 1050

Gly Leu Gln Ser Cys Pro Ile Lys Glu Asp Ser Phe Leu Gln Arg
1055 1060 1065

Tyr Ser Ser Asp Pro Thr Gly Ala Leu Thr Glu Asp Ser Ile Asp
1070 1075 1080

Asp Thr Phe Leu Pro Val Pro Glu Tyr Ile Asn Gln Ser Val Pro
1085 1090 1095

Lys Arg Pro Ala Gly Ser Val Gln Asn Pro Val Tyr His Asn Gln
1100 1105 1110

Pro Leu Asn Pro Ala Pro Ser Arg Asp Pro His Tyr Gln Asp Pro
1115 1120 1125

His Ser Thr Ala Val Gly Asn Pro Glu Tyr Leu Asn Thr Val Gln
1130 1135 1140

Pro Thr Cys Val Asn Ser Thr Phe Asp Ser Pro Ala His Trp Ala
1145 1150 1155

Gln Lys Gly Ser His Gln Ile Ser Leu Asp Asn Pro Asp Tyr Gln
1160 1165 1170

Gln Asp Phe Phe Pro Lys Glu Ala Lys Pro Asn Gly Ile Phe Lys
1175 1180 1185

Gly Ser Thr Ala Glu Asn Ala Glu Tyr Leu Arg Val Ala Pro Gln
1190 1195 1200

Ser Ser Glu Phe Ile Gly Ala
1205 1210

<210> 259
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG1H

<400> 259

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

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

Pro Ala Pro Glu Leu Leu Gly Gly Glu Val Gln Leu

115 120

<210> 260
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG1MH

<400> 260

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

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

Pro Glu Val Gln Leu
115

<210> 261
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG1 UH

<400> 261

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

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

<210> 262
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG1G4S

<400> 262

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

Arg Val Glu Pro Lys Ser Cys Asp Gly Gly Gly Gly Ser Gly Gly Gly
100 105 110

Gly Ser Glu Val Gln Leu
115

<210> 263
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG1UL

<400> 263

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

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

Leu Gly Gly Glu Val Gln Leu
115

<210> 264
<211> 129
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG1R

<400> 264

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

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

Lys Glu Ala Ala Ala Lys Ala Pro Glu Leu Leu Gly Gly Glu Val Gln
115 120 125

Leu

<210> 265
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2AH

<400> 265

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Ser Ser Val Glu Ser Pro Pro Ser Pro Ala Pro
100 105 110

Pro Val Ala Gly Glu Val Gln Leu
115 120

<210> 266
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of Ig G2AMH

<400> 266

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Ser Ser Val Glu Ser Pro Pro Ser Pro Glu Val
100 105 110

Gln Leu

<210> 267
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2AUL

<400> 267

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Ser Ser Val Glu Ala Pro Pro Val Ala Gly Glu
100 105 110

Val Gln Leu
115

<210> 268
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2AG4SS

<400> 268

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
100 105 110

<210> 269
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2AG4SL

<400> 269

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Pro Pro Val
100 105 110

Ala Gly Glu Val Gln Leu
115

<210> 270
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2AR

<400> 270

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Ser Ser Val Glu Glu Ala Ala Ala Lys Glu Ala
100 105 110

Ala Ala Lys Ala Pro Pro Val Ala Gly Glu Val Gln Leu
115 120 125

<210> 271
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2BH

<400> 271

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Cys Ser Val Glu Ser Pro Pro Ser Pro Ala Pro
100 105 110

Pro Val Ala Gly Glu Val Gln Leu
115 120

<210> 272
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2BMH

<400> 272

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Cys Ser Val Glu Ser Pro Pro Ser Pro Glu Val
100 105 110

Gln Leu

<210> 273
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2BUL

<400> 273

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Cys Ser Val Glu Ala Pro Pro Val Ala Gly Glu
100 105 110

Val Gln Leu
115

<210> 274

<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG2BR

<400> 274

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

Ser Thr Ser Glu Ser 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 Asn Phe Gly Thr Gln Thr
65 70 75 80

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

Thr Val Glu Arg Lys Cys Ser Val Glu Glu Ala Ala Ala Lys Glu Ala
100 105 110

Ala Ala Lys Ala Pro Pro Val Ala Gly Glu Val Gln Leu
115 120 125

<210> 275
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG3ULH

<400> 275

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
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 Thr Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Ala Pro
100 105 110

Glu Phe Leu Gly Gly Glu Val Gln Leu
115 120

<210> 276
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG3UH

<400> 276

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
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 Thr Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Glu Val
100 105 110

Gln Leu

<210> 277
<211> 131
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG3R

<400> 277

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
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 Thr Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Glu Ala
100 105 110

Ala Ala Lys Glu Ala Ala Ala Lys Ala Pro Glu Phe Leu Gly Gly Glu
115 120 125

Val Gln Leu
130

<210> 278
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG4H

<400> 278

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

Ser Thr Ser Glu Ser 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 Lys Thr
65 70 75 80

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

Arg Val Glu Ser Lys Tyr Gly Pro Pro Ser Pro Ser Ser Pro Ala Pro
100 105 110

Glu Phe Leu Gly Gly Glu Val Gln Leu
115 120

<210> 279
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG4UH

<400> 279

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

Ser Thr Ser Glu Ser 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 Lys Thr
65 70 75 80

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

Arg Val Glu Ser Lys Tyr Gly Pro Pro Glu Val Gln Leu
100 105

<210> 280
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG4MH

<400> 280

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

Ser Thr Ser Glu Ser 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 Lys Thr
65 70 75 80

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

Arg Val Glu Ser Lys Tyr Gly Pro Pro Ser Pro Ser Ser Pro Glu Val
100 105 110

Gln Leu

<210> 281

<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG4R

<400> 281

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

Ser Thr Ser Glu Ser 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 Lys Thr
65 70 75 80

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

Arg Val Glu Ser Lys Tyr Gly Pro Pro Glu Ala Ala Ala Lys Glu Ala
100 105 110

Ala Ala Lys Ala Pro Glu Phe Leu Gly Gly Glu Val Gln Leu
115 120 125

<210> 282
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of IgG4UL

<400> 282

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

Ser Thr Ser Glu Ser 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 Lys Thr
65 70 75 80

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

Arg Val Glu Ser Lys Tyr Gly Pro Pro Ala Pro Glu Phe Leu Gly Gly
100 105 110

Glu Val Gln Leu
115

<210> 283
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus

<400> 283

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

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

Arg Val Glu Lys Ser Thr Ser Glu Val Gln Leu
100 105

<210> 284
<211> 1053
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA sequence of construct MF1337xIgG4 UHxMF1122

<220>
<221> CDS
<222> (1)..(1053)

<400> 284
gag gtg cag ctg gtg gag act ggg gct gag gtg aag aag ccg ggg gcc 48
Glu Val Gln Leu Val Glu Thr Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

tca gtg aag gtc tcc tgc aag gct tct gac tac atc ttc acc aaa tat 96
Ser Val Lys Val Ser Cys Lys Ala Ser Asp Tyr Ile Phe Thr Lys Tyr
20 25 30

gac atc aac tgg gtg cgc cag gcc cct gga caa ggg ctt gaa tgg atg 144
Asp Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

gga tgg atg agc gct aac act gga aac acg ggc tat gca cag aag ttc 192
Gly Trp Met Ser Ala Asn Thr Gly Asn Thr Gly Tyr Ala Gln Lys Phe
50 55 60

cag ggc aga gtc acc atg acc agg gac acg tcc ata aac aca gcc tac 240
Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Asn Thr Ala Tyr
65 70 75 80

atg gag ctg agc agc ctg aca tct ggt gac acg gcc gtt tat ttc tgt 288
Met Glu Leu Ser Ser Leu Thr Ser Gly Asp Thr Ala Val Tyr Phe Cys
85 90 95

gcg agg agt agt ctt ttc aag aca gag acg gcg ccc tac tat cac ttc 336
Ala Arg Ser Ser Leu Phe Lys Thr Glu Thr Ala Pro Tyr Tyr His Phe
100 105 110

gct ctg gac gtc tgg ggc caa ggg acc acg gtc acc gtc tcc agt gct 384
Ala Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala
115 120 125

agc acc aag ggc ccc agc gtg ttc ccc ctg gcc ccc tgc agc cgg agc 432
Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
130 135 140

acc agc gag agc acc gcc gcc ctg ggc tgc ctg gtg aag gac tac ttc 480
Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
145 150 155 160

ccc gag ccc gtg acc gtg agc tgg aac agc ggc gcc ctg acc agc ggc 528
Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
165 170 175

gtg cac acc ttc ccc gcc gtg ctg cag agc agc ggc ctg tac agc ctg 576
Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
180 185 190

agc agc gtg gtg acg gtg ccc agc agc agc ctg ggc acc aag acc tac 624
Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr
195 200 205

acc tgc aac gtg gac cac aag ccc agc aac acc aag gtg gac aag cgg 672
Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg
210 215 220

gtg gag agc aag tac ggc ccc ccc gag gtg cag ctg gtg gag tct ggg 720
Val Glu Ser Lys Tyr Gly Pro Pro Glu Val Gln Leu Val Glu Ser Gly
225 230 235 240

gga ggc gtg gtc cag cct ggg agg tcc ctg aga ctc tcc tgt gca gcc 768

Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala
245 250 255

tct gga ttc acc ttc agt agc tat ggc atg cac tgg gtc cgc cag gct 816
Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala
260 265 270

cca ggc aag ggg ctg gag tgg gtg gca gtt ata tca tat gat gga agt 864
Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser
275 280 285

aat aaa tac tat gca gac tcc gtg aag ggc cga ttc acc atc tcc aga 912
Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
290 295 300

gac aat tcc aag aac acg ctg tat ctg caa atg aac agc ctg aga gct 960
Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala
305 310 315 320

gag gac acg gcc gtg tat tac tgt gca aga gcc ctc ttc acg acc atc 1008
Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala Leu Phe Thr Thr Ile
325 330 335

gcc atg gac tat tgg ggc caa ggt acc ctt gtc acc gtc tcg agt 1053
Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
340 345 350

<210> 285
<211> 351
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 285

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

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

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

Gly Trp Met Ser Ala Asn Thr Gly Asn Thr Gly Tyr Ala Gln Lys Phe
50 55 60

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

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

Ala Arg Ser Ser Leu Phe Lys Thr Glu Thr Ala Pro Tyr Tyr His Phe
100 105 110

Ala Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala
115 120 125

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
130 135 140

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
145 150 155 160

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
165 170 175

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
180 185 190

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr
195 200 205

Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg
210 215 220

Val Glu Ser Lys Tyr Gly Pro Pro Glu Val Gln Leu Val Glu Ser Gly
225 230 235 240

Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala
245 250 255

Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala
260 265 270

Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser
275 280 285

Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
290 295 300

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

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala Leu Phe Thr Thr Ile
325 330 335

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
340 345 350

<210> 286
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of MF1122

<400> 286

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

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

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

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

Thr Leu Val Thr Val Ser Ser
115

<210> 287
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of MF1025

<400> 287

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

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

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

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

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 288
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> Translation of MF1337

<400> 288

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

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

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

Gly Trp Met Ser Ala Asn Thr Gly Asn Thr Gly Tyr Ala Gln Lys Phe
50 55 60

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

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

Ala Arg Ser Ser Leu Phe Lys Thr Glu Thr Ala Pro Tyr Tyr His Phe

100 105 110

Ala Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 289
<211> 267
<212> PRT
<213> Homo sapiens

<400> 289

Met Trp Gly Val Phe Leu Leu Tyr Val Ser Met Lys Met Gly Gly Thr
1 5 10 15

Thr Gly Gln Asn Ile Asp Gln Pro Thr Glu Met Thr Ala Thr Glu Gly
20 25 30

Ala Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly
35 40 45

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

Tyr Asn Val Leu Asp Gly Leu Glu Glu Lys Gly Arg Phe Ser Ser Phe
65 70 75 80

Leu Ser Arg Ser Lys Gly Tyr Ser Tyr Leu Leu Leu Lys Glu Leu Gln
85 90 95

Met Lys Asp Ser Ala Ser Tyr Leu Cys Ala Val Met Asp Ser Asn Tyr
100 105 110

Gln Leu Ile Trp Gly Ala Gly Thr Lys Leu Ile Ile Lys Pro Asp Ile
115 120 125

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

Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val
145 150 155 160

Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu
165 170 175

Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser
180 185 190

Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile
195 200 205

Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Cys Asp Val Lys
210 215 220

Leu Val Glu Lys Ser Phe Glu Thr Asp Thr Asn Leu Asn Phe Gln Asn
225 230 235 240

Leu Ser Val Ile Gly Phe Arg Ile Leu Leu Leu Lys Val Ala Gly Phe
245 250 255

Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
260 265

<210> 290
<211> 310
<212> PRT
<213> Homo sapiens

<400> 290

Met Arg Ile Arg Leu Leu Cys Cys Val Ala Phe Ser Leu Leu Trp Ala
1 5 10 15

Gly Pro Val Ile Ala Gly Ile Thr Gln Ala Pro Thr Ser Gln Ile Leu
20 25 30

Ala Ala Gly Arg Arg Met Thr Leu Arg Cys Thr Gln Asp Met Arg His

35 40 45

Asn Ala Met Tyr Trp Tyr Arg Gln Asp Leu Gly Leu Gly Leu Arg Leu
50 55 60

Ile His Tyr Ser Asn Thr Ala Gly Thr Thr Gly Lys Gly Glu Val Pro
65 70 75 80

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

Leu Ala Ser Ala Val Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser
100 105 110

Ser Glu Ala Gly Gly Asn Thr Gly Glu Leu Phe Phe Gly Glu Gly Ser
115 120 125

Arg Leu Thr Val Leu Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val
130 135 140

Ala Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala
145 150 155 160

Thr Leu Val Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu
165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp
180 185 190

Pro Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys
195 200 205

Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg
210 215 220

Asn His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp
225 230 235 240

Glu Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala
245 250 255

Glu Ala Trp Gly Arg Ala Asp Cys Gly Phe Thr Ser Val Ser Tyr Gln
260 265 270

Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys
275 280 285

Ala Thr Leu Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met
290 295 300

Val Lys Arg Lys Asp Phe
305 310

<210> 291
<211> 294
<212> DNA
<213> Artificial Sequence

<220>
<223> VH-CH1

<220>
<221> CDS
<222> (1)..(294)

<400> 291
gct agc acc aag ggc cca tcg gtc ttc ccc ctg gca ccc tcc tcc aag 48
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

agc acc tct ggg ggc aca gcg gcc ctg ggc tgc ctg gtc aag gac tac 96
Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

ttc ccc gaa ccg gtg acg gtg tcg tgg aac tca ggc gcc ctg acc agc 144
Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

ggc gtg cac acc ttc ccg gct gtc cta cag tcc tca gga ctc tac tcc 192

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

ctc agc agc gtc gtg acc gtg ccc tcc agc agc ttg ggc acc cag acc 240
Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

tac atc tgc aac gtg aat cac aag ccc agc aac acc aag gtg gac aag 288
Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

aga gtt 294
Arg Val

<210> 292
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 292

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

Arg Val

<210> 293
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> VH-hinge

<220>
<221> CDS
<222> (1)..(45)

<400> 293
gag ccc aaa tct tgt gac aaa act cac aca tgc cca ccg tgc cca 45
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
1 5 10 15

<210> 294
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 294

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
1 5 10 15

<210> 295
<211> 330
<212> DNA
<213> Artificial Sequence

<220>
<223> VH-CH2

<220>
<221> CDS

<222> (1)..(330)

<400> 295
gca cct gaa ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa 48
Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
1 5 10 15

ccc aag gac acc ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg 96
Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

gtg gtg gac gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac 144
Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
35 40 45

gtg gac ggc gtg gag gtg cat aat gcc aag aca aag ccg cgg gag gag 192
Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

cag tac aac agc acg tac cgt gtg gtc agc gtc ctc acc gtc ctg cac 240
Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

cag gac tgg ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa 288
Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

gcc ctc cca gcc ccc atc gag aaa acc atc tcc aaa gcc aaa 330
Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
100 105 110

<210> 296
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 296

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

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
35 40 45

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

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

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
100 105 110

<210> 297
<211> 330
<212> DNA
<213> Artificial Sequence

<220>
<223> VH-CH2 L235G G236R

<220>
<221> CDS
<222> (1)..(330)

<400> 297
gca cct gaa ctc ggc agg gga ccg tca gtc ttc ctc ttc ccc cca aaa 48
Ala Pro Glu Leu Gly Arg Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
1 5 10 15

ccc aag gac acc ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg 96
Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

gtg gtg gac gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac 144
Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
35 40 45

gtg gac ggc gtg gag gtg cat aat gcc aag aca aag ccg cgg gag gag 192
Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu

50 55 60

cag tac aac agc acg tac cgt gtg gtc agc gtc ctc acc gtc ctg cac 240
Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

cag gac tgg ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa 288
Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

gcc ctc cca gcc ccc atc gag aaa acc atc tcc aaa gcc aaa 330
Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
100 105 110

<210> 298
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 298

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

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
35 40 45

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

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

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
100 105 110

<210> 299
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> VH-CH3

<220>
<221> CDS
<222> (1)..(321)

<400> 299
ggg cag ccc cga gaa cca cag gtg tac acc aag ccc cca tcc cgg gag 48
Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Lys Pro Pro Ser Arg Glu
1 5 10 15

gag atg acc aag aac cag gtc agc ctg aag tgc ctg gtc aaa ggc ttc 96
Glu Met Thr Lys Asn Gln Val Ser Leu Lys Cys Leu Val Lys Gly Phe
20 25 30

tat ccc agc gac atc gcc gtg gag tgg gag agc aat ggg cag ccg gag 144
Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
35 40 45

aac aac tac aag acc acg cct ccc gtg ctg gac tcc gac ggc tcc ttc 192
Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
50 55 60

ttc ctc tat agc aag ctc acc gtg gac aag agc agg tgg cag cag ggg 240
Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
65 70 75 80

aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac cac tac 288
Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
85 90 95

acg cag aag agc ctc tcc ctg tct ccg ggt tga 321
Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
100 105

<210> 300
<211> 106

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 300

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

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

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
35 40 45

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

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

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
85 90 95

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
100 105

<210> 301
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> VH-CH3

<220>
<221> CDS
<222> (1)..(321)

<400> 301
ggg cag ccc cga gaa cca cag gtg tac acc gac ccc cca tcc cgg gag 48
Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Asp Pro Pro Ser Arg Glu
1 5 10 15

gag atg acc aag aac cag gtc agc ctg acc tgc gag gtc aaa ggc ttc 96
Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Glu Val Lys Gly Phe
20 25 30

tat ccc agc gac atc gcc gtg gag tgg gag agc aat ggg cag ccg gag 144
Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
35 40 45

aac aac tac aag acc acg cct ccc gtg ctg gac tcc gac ggc tcc ttc 192
Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
50 55 60

ttc ctc tat agc aag ctc acc gtg gac aag agc agg tgg cag cag ggg 240
Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
65 70 75 80

aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac cac tac 288
Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
85 90 95

acg cag aag agc ctc tcc ctg tct ccg ggt tga 321
Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
100 105

<210> 302
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 302

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

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

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu

35 40 45

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

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

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
85 90 95

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
100 105