

SEQUENCE LISTING

<110> APRILBIO CO., LTD.

<120> MULTISPECIFIC ANTIBODIES, COMPOSITIONS COMPRISING THE SAME, AND VECTORS AND USES THEREOF

<130> 2662-0001W001

<150> KR 10-2020-0009565

<151> 2020-01-24

<150> 16/878,255

<151> 2020-05-19

<160> 105

<170> PatentIn version 3.5

<210> 1

<211> 669

<212> DNA

<213> Artificial Sequence

<220>

<223> SL335 Heavy chain DNA

<400> 1

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ccagggaagg ggttggaatg ggtgtccagc atcagcagct ctggaaggta catccactac      180
gccgactccg tgaagggcag gttcaccatt tcccgggaca acgctaagaa cagcctgtac      240
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gtgatggccg ggaaagccct ggattactgg ggccaaggca ctctggtcac agtcagctca      360
gcctctacaa aaggccctag tgtgtttcct ctggcccat caagtaagag cacctcagag      420
gggaccgccg ccctgggctg cctggtcaaa gattactttc cagagcccgt gacagtgagt      480
tggaacagtg gggctctgac aagcggggtc catacatttc ccgccgtgct gcagagcagc      540
gggctgtata gcctgagcag cgtcgtcact gtgcccagct cttctctcgg cacacagact      600
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<210> 2

<211> 645

<212> DNA

<213> Artificial Sequence

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<223> SL335 Light chain DNA

<400> 2

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ctgagctgca gggccagcca gtccgtcggc tccaacctgg cctggtacca gcagaagccc 120
gggcaggccc ccaggctgct gatttacggc gccagcacag gcgccacagg ggtgcccgcc 180
aggtttagcg gcagccggag cggcacagat ttactactga caatcacatc cctgcagccc 240
gaggattttg ccacatacta ctgccagcag tactactcct tcctggccaa gacattcggc 300
cagggcaccc agctggagat caagcggacc gtggccgccc ccagcgtgtt tattttcccc 360
cccagcgatg agcagctgaa gtccggcacc gcctccgtcg tgtgcctgct gaacaacttc 420
tacccccggg aggccaaggt ccagtggaag gtcgataacg ccctgcagag cgggaactcc 480
caggagtccg tgaccgagca ggactccaag gacagcacct actccctgtc caacaccctg 540
accctgagca aggccgacta cgagaagcac aaggtctacg cctgcgaggt gaccaccag 600
ggcctgtcct cccccgtgac caagagcttt aaccgggggg agtcc 645

<210> 3
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> linker 1

<400> 3

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 4
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> linker 2

<400> 4

Gly Ser Thr Ser Gly Ser Gly Lys Pro Gly Ser Gly Glu Gly Ser Thr
1 5 10 15

Lys Gly

<210> 5
<211> 794
<212> DNA
<213> Artificial Sequence

<220>
<223> hu5c8 scFv DNA

<400> 5
atggagtggt cctgggtctt cctcttcttc ctcagcgtga ccaccggagt gctttccgac 60
atcgtcttga ctcaatctcc cgccaccctg tccgtatccc ccggagagcg tgctacaata 120

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agttgccgcg caagtcagag agtgtcaagc agtacatact cctacatgca ctggtaccag      180
cagaagccag gccagcctcc aaagttgctt attaaatacg ccagcaatct tgaatccggg      240
gtacccgccc gcttctcagg atctggttct ggcacagatt ttacactcac aattagctct      300
gtcgcgcctg aggacttcgc cacctattac tgccagcact cctgggagat cccccctaca      360
ttcggtcagg ggactaaact tgagataaag cggggaggcg gaggaagtgg gggaggagga      420
agcggcggag gggggagcca ggtccagctg gtgcagagtg gcgcagaagt agtaaagccc      480
ggcgcacccg ttaagctgtc ctgtaaagca agcggatata tttttacctc ctattacatg      540
tattgggtga aacaagcacc aggccaagga cttgaatgga tcggcgaaat aaatcccagc      600
aacggcgata caaatTTTaa tgagaagttt aagtctaaag ccacattgac tgttgataaa      660
tccgccagca ctgcatatat ggaactctct agcttgagga gtgaagatac cgcagtgtac      720
tactgcactc gtagtgatgg caggaatgac atggactctt ggggccaggg tacattggtt      780
acagtctcct cttg                                                    794

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<210> 6
 <211> 354
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> anti-TNF-alpha Fv, VH DNA

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<400> 6
gaagtccaac ttgttgagtc cggaggaggg ctcggttaac caggcgggtc cctgcggctt      60
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cccggtaaag gtctggaatg gatggggtgg atcaatacat acataggtga acccatatat      180
gcagattcag taaagggtcg cttcacattt tctctcgaca ctagtaagtc aacagcctac      240
ctccagatga actcccttcg tgcagaggat acagctgtgt attactgcgc ccggggttac      300
agaagctacg caatggatta ttgggggcag ggtacccttg ttaccgtctc aagt          354

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<210> 7
 <211> 324
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> anti-TNF-alpha Fv, VL DNA

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<400> 7
gatatacaga tgacacaaag cccaagcagt ctcagtgcct ccgttggtga ccgggtcacc      60
atcacttgta aagcatccca gaacgtcgga acaaacgtag catggtacca acagaagcca      120
ggaaaggcac caaaggccct tatctactcc gcttcctttc tctactcagg cgtaccatac      180
aggttcagcg gctccggcag tggaaccgat ttcaccctta ctatttcctc actgcagcca      240

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gaggacttcg ccacttacta ctgtcaacag tataatatattt accccctgac atttggacag 300

ggaacaaaag ttgagattaa gcgg 324

<210> 8

<211> 354

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-TNF-alpha dsFv, VH DNA

<400> 8

gaagtccaac ttgttgagtc cggaggaggg ctcgttcaac caggcgggtc cctgcggctt 60

tcctgtgctg cttcaggcta cgtttttaca gattacggca tgaactgggt tcggcaggcc 120

cccggtaaat gtctggaatg gatgggggtg atcaatacat acataggtga acccatatat 180

gcagattcag taaagggtcg cttcacattt tctctcgaca ctagtaagtc aacagcctac 240

ctccagatga actcccttcg tgcagaggat acagctgtgt attactgcgc ccgggggttac 300

agaagctacg caatggatta ttgggggcag ggtacccttg ttaccgtctc aagt 354

<210> 9

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-TNF-alpha dsFv, VL DNA

<400> 9

gatatacaga tgacacaaag cccaagcagt ctcagtgctt ccgttgggtga ccgggtcacc 60

atcacttgta aagcatccca gaacgtcggga acaaacgtag catggtacca acagaagcca 120

ggaaaggcac caaaggccct tatctactcc gcttcctttc tctactcagg cgtaccatac 180

aggttcagcg gctccggcag tggaaccgat ttcaccctta ctatttcctc actgcagcca 240

gaggacttcg ccacttacta ctgtcaacag tataatatattt accccctgac atttggatgt 300

ggaacaaaag ttgagattaa gcgg 324

<210> 10

<211> 357

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-IL-23 Fv, VH DNA

<400> 10

gaggtagcgc ttgtccaaag tggcgccgag gtcaaaaaac ccggagaaaag tctgaaaatt 60

agttgcaaag gctccggcta ctccttcaca acttattggc ttgggtgggt acggcagatg 120

cccggaagaa gcctcgattg gatagggata atgagtcccg tagacagtga catccgctac 180

agcccttctt ttcaagggtca agttacaatg agtggttgaca aatccatcac tacagcatac 240

cttcagtgga acagcctgaa ggcaagcgat actgcaatgt attactgtgc ccgtcgccgc 300

cccgggcagg gctatttcga cttctggggc caggggacac tggtcaccgt ttcattct 357

<210> 11

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-IL-23 Fv, VL DNA

<400> 11

gacatccaaa tgacacagag tccatctagc ctgagcgct cagttggcga ccgggtaaca 60

ataacctgcc gggccagtca ggggataagc tcatggctgg catggatatca gcaaaaaccc 120

gaaaaagcac ctaaatact tcttatgcc gctagcagct tgcaatctgg tgtaccctca 180

cgtttttctg ggagtggtag cggcacagat ttcacactca caatttcctc cttcagccc 240

gaagatttcg ctacctacta ttgccaacag tataacattt atccttatac attcgggcaa 300

ggaacaaaat tggagataaa gcgg 324

<210> 12

<211> 357

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-IL-23 dsFv, VH DNA

<400> 12

gaggtacagc ttgtccaaag tggcgccgag gtcaaaaaac ccggagaaag tctgaaaatt 60

agttgcaaag gctccggcta ctccttcaca acttattggc ttgggtgggt acggcagatg 120

cccgaaaaat gtctcgattg gatagggata atgagtcctg tagacagtga catccgctac 180

agcccttctt ttcaaggtca agttacaatg agtggtgaca aatccatcac tacagcatac 240

cttcagtgga acagcctgaa ggcaagcgat actgcaatgt attactgtgc ccgtcgccgc 300

cccgggcagg gctatttcga cttctggggc caggggacac tggtcaccgt ttcattct 357

<210> 13

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-IL-23 dsFv, VL DNA

<400> 13

gacatccaaa tgacacagag tccatctagc ctgagcgct cagttggcga ccgggtaaca 60

ataacctgcc gggccagtca ggggataagc tcatggctgg catggatatca gcaaaaaccc 120

gaaaaagcac ctaaatact tcttatgcc gctagcagct tgcaatctgg tgtaccctca 180

cgtttttctg ggagtggtag cggcacagat ttcacactca caatttcctc ccttcagccc 240
gaagatttcg ctacctacta ttgccaacag tataacattt atccttatac attcgggtgt 300
ggaacaaaat tggagataaa gcgg 324

<210> 14
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> anti-IFNAR1 Fv, VH DNA

<400> 14
gaagttcagc tgggtacaatc aggagccgaa gtaaagaagc caggcgaatc ccttaaaatc 60
tcttgcaagg gaagcggcta catatttact aattactgga tcgcatgggt tcgacagatg 120
ccaggcaaag gtctggagtc catggggata atataccctg gagacagtga catacgctat 180
tccccaaagt tccaaggaca agtgaccatt tctgctgata aaagcatcac aacagcctac 240
cttcaatggt catctcttaa ggcctctgac accgcaatgt actactgtgc tcgccacgat 300
attgaggggt tcgattactg ggggcggggc acccttgta cagttagcag t 351

<210> 15
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
<223> anti-IFNAR1 Fv, VL DNA

<400> 15
gagattgtac ttaccagtc tcctggcact ctgagtttga gtcccggcga gcgcgctacc 60
ctgagttgcc gagcttcaca gtccgtcagc tcttcattct tcgcttggtta ccagcaaaaa 120
cctgggcagg cccaagatt gcttatatat ggagcctcct cccgagcaac aggcaccccc 180
gaccgactca gcggttctgg atctggcacc gatttcactt tgacaattac ccggcttgag 240
cccgaggact ttgccgtata ttattgtcaa caatacgata gcagcgcaat tactttcggg 300
caagggactc gacttgagat taaacgt 327

<210> 16
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer APB-A1 H DNA

<400> 16
gatcaactct agagccacca tggagtgggtc ctgggtc 37

<210> 17
<211> 56

<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer APB-A1 H DNA

<400> 17
aggaagacgc ttttagaggc ggccgctcag gaggacttgg gctccacctt cttatc 56

<210> 18
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer APB-A1 L DNA

<400> 18
gatcaactct agagccacca tggagaccca cagccag 37

<210> 19
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer APB-A1 L DNA

<400> 19
aggaagacgc ttttagaggc ggccgctcag gactcccccc ggttaaagct cttggtcac 59

<210> 20
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 1

<400> 20
gatcaactct agagccacca tggagtggtc ctgggt 36

<210> 21
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 2

<400> 21
ggaggacttg ggctccacct tcttatcgac 30

<210> 22
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 3

<400> 22
gtcgataaga aggtggagcc caagtcctcc 30

<210> 23
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 4

<400> 23
atcggcggcc gcgaagacgc ttttagatca 30

<210> 24
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 5

<400> 24
gatcaactct agagccacca tggagacca cagccag 37

<210> 25
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 6

<400> 25
ggactcccc cggttaaagc tcttggtcac 30

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 7

<400> 26
gtgaccaaga gctttaaccg gggggagtcc 30

<210> 27
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 8

<400> 27
atcggcggcc gcgaagacgc ttttagatca 30

<210> 28
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 9

<400> 28
tttaccgggg gcctgccgaa cccagttcat 30

<210> 29
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 10

<400> 29
gcccccggt aatgtctgga atggatgggg 30

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

<220>
<223> primer 11

<400> 30
atcggcggcc gcgaagacgc ttttagatca 30

<210> 31
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 12

<400> 31
ttcatgctgc cgcgaagacg cttttagatc accgcttaat ctcaactttt gttccacatc 60
caaatgtcag 70

<210> 32
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> primer 13

<400> 32
ttttccgggc atctgccgta cccaccaag 30

<210> 33
<211> 36
<212> DNA

<213> Artificial Sequence

<220>

<223> primer 14

<400> 33

atgcccggaa aatgtctcga ttggataggg ataatg 36

<210> 34

<211> 70

<212> DNA

<213> Artificial Sequence

<220>

<223> primer 15

<400> 34

ttcattgcggc cgccaagacg ctttttagatc accgctttat ctccaatttt gttccacacc 60

cgaatgtata 70

<210> 35

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> primer 16

<400> 35

tttgcctggc atctgtcgaa cccatgcat 30

<210> 36

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> primer 17

<400> 36

atgccaggca aatgtctgga gtccatgggg 30

<210> 37

<211> 70

<212> DNA

<213> Artificial Sequence

<220>

<223> primer 18

<400> 37

tacatgcggc cgccaagacg ctttttagatc aacgtttaat ctcaagtcga gtccacacc 60

cgaagtaat 70

<210> 38

<211> 465

<212> DNA

<213> Artificial Sequence

<220>

<223> rhCD40L-his DNA

<400> 38

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ggggatcaaa atcctcaa at cgctgctcac gtaattagtg aggcatacaag taagactacc      60
agcgtacttc aatgggccga gaagggctat tacactatgt caaacaacct cgtgaccctt      120
gagaacggca agcagctcac tgtaaagcgc cagggacttt attacattta tgcacaggtc      180
acattctgct caaaccggga ggcaagttca caggctccat ttatcgctag tttgtgtttg      240
aagagcccag ggagatttga gaggatactt ctccgagccg caaacacca ttccagtgcc      300
aagccatgcg ggcagcagag catacatttg ggtggcgtgt ttgagctgca gcctggggca      360
tctgtattcg taaatgttac cgatccttct caagtttcac atggaacagg cttcacatct      420
ttcggccttc tgaactggg ccaccacat catcaccacc accat                        465

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<210> 39

<211> 351

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-IFNAR1 dsFv, VH DNA

<400> 39

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gaagttcagc tggtaaatc aggagccgaa gtaaagaagc caggcgaatc ccttaaaatc      60
tcttgcaagg gaagcggcta catatttact aattactgga tcgcatgggt tcgacagatg      120
ccaggcaaat gtctggagtc catggggata atataccctg gagacagtga catacgctat      180
tcccaagtt tccaaggaca agtgaccatt tctgctgata aaagcatcac aacagcctac      240
cttcaatggt catctcttaa ggcctctgac accgcaatgt actactgtgc tcgccacgat      300
attgaggggt tcgattactg ggggcggggc acccttgta cagttagcag t                        351

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<210> 40

<211> 327

<212> DNA

<213> Artificial Sequence

<220>

<223> anti-IFNAR1 dsFv, VL DNA

<400> 40

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gagattgtac ttaccagtc tcctggcact ctgagtttga gtcccggcga gcgcgtacc      60
ctgagttgcc gagcttcaca gtccgtcagc tcttcattct tcgcttggtta ccagcaaaaa      120
cctgggcagg cccaagatt gcttatatat ggagcctcct cccgagcaac aggcaccccc      180
gaccgactca gcggttctgg atctggcacc gatttcactt tgacaattac ccggcttgag      240
cccgaggact ttgccgtata ttattgtcaa caatacgata gcagcgcaat tactttcggg      300
tgtgggactc gacttgagat taaacgt                        327

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<210> 41
<211> 483
<212> PRT
<213> Artificial Sequence

<220>
<223> APB-A1 Heavy chain

<400> 41

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

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

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

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

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

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

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
115 120 125

Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala Ser
130 135 140

Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Tyr Tyr
145 150 155 160

Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly
165 170 175

Glu Ile Asn Pro Ser Asn Gly Asp Thr Asn Phe Asn Glu Lys Phe Lys
180 185 190

Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ala Ser Thr Ala Tyr Met
195 200 205

Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Thr
210 215 220

Arg Ser Asp Gly Arg Asn Asp Met Asp Ser Trp Gly Gln Gly Thr Leu
 225 230 235 240

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 245 250 255

Gly Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Gly Gly Pro Val
 260 265 270

Lys Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Met
 275 280 285

Phe Arg Ala Tyr Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly
 290 295 300

Leu Glu Trp Val Ser Ser Ile Ser Ser Ser Gly Arg Tyr Ile His Tyr
 305 310 315 320

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
 325 330 335

Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
 340 345 350

Val Tyr Tyr Cys Ala Arg Glu Thr Val Met Ala Gly Lys Ala Leu Asp
 355 360 365

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
 370 375 380

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Glu
 385 390 395 400

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 405 410 415

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 420 425 430

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 435 440 445

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
 450 455 460

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
 465 470 475 480

Lys Ser Ser

<210> 42
<211> 478
<212> PRT
<213> Artificial Sequence

<220>
<223> APB-A1 Light chain

<400> 42

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

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

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

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

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

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

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
115 120 125

Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala Ser
130 135 140

Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Tyr Tyr
145 150 155 160

Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly
165 170 175

Glu Ile Asn Pro Ser Asn Gly Asp Thr Asn Phe Asn Glu Lys Phe Lys
180 185 190

Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ala Ser Thr Ala Tyr Met
195 200 205

Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Thr
210 215 220

Arg Ser Asp Gly Arg Asn Asp Met Asp Ser Trp Gly Gln Gly Thr Leu
225 230 235 240

Val Thr Val Ser Ser Gly Ser Thr Ser Gly Ser Gly Lys Pro Gly Ser
245 250 255

Gly Glu Gly Ser Thr Lys Gly Asp Ile Val Leu Thr Gln Ser Pro Gly
260 265 270

Thr Leu Ser Leu Ser Pro Gly Glu Thr Ala Thr Leu Ser Cys Arg Ala
275 280 285

Ser Gln Ser Val Gly Ser Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly
290 295 300

Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Thr Gly Ala Thr Gly
305 310 315 320

Val Pro Ala Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr Leu
325 330 335

Thr Ile Thr Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln
340 345 350

Gln Tyr Tyr Ser Phe Leu Ala Lys Thr Phe Gly Gln Gly Thr Gln Leu
355 360 365

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
370 375 380

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
385 390 395 400

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
405 410 415

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
420 425 430

Lys Asp Ser Thr Tyr Ser Leu Ser Asn Thr Leu Thr Leu Ser Lys Ala
435 440 445

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
450 455 460

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Ser
 465 470 475

<210> 43
 <211> 735
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> hu5c8 scFv DNA linked to N term of variable heavy chain of SL335

<400> 43
 gatatcgtgc tgaccagtc tcctgccaca ctgagtgtgt ctccaggcga gagagccacc 60
 atctcttgca gagcttccca gagagtgtcc tcctccacct actcctacat gacttggtat 120
 cagcagaagc ccggccagcc tcctaagctg ctgattaagt acgcctccaa cctggaatcc 180
 ggctgtgccag ccagattttc tggctctgga tctggcaccg acttcaccct gaccatcagc 240
 tctgtggaac ctgaggactt cgccacctac tactgccagc actcttggga gatcccacct 300
 acctttggcg gaggcaccaa gctggaaatc aaaagagggtg gcggaggatc tggcgggtggt 360
 gggtcaggcg gaggcggatc tcaggttcag ttggttcagt ctggcgccga ggttgtgaaa 420
 cctggcgctt ctgtgaagct gtcctgcaag gcctccggct acatcttcac cagctactac 480
 atgtactggg tcaagcaggc ccctggacag ggacttgagt ggatcggcga gatcaaccct 540
 tccaacggcg acaccaactt caacgagaag ttcaagtcca aggctaccct gaccgtggac 600
 aagtctgcct ccaccgtta catggaactg tctagcctga gaagcgagga caccgccgtg 660
 tactactgca ccagatccga cggcagaaac gacatggatt cttggggcca gggcaccctg 720
 gttacagttt cttct 735

<210> 44
 <211> 735
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> hu5c8 scFv DNA linked to N term of variable light chain of SL335

<400> 44
 gatatcgtgc tgaccagtc tcctgccaca ctgagtgtgt ctccaggcga gagagccacc 60
 atctcttgca gagcttccca gagagtgtcc tcctccacct actcctacat gacttggtat 120
 cagcagaagc ccggccagcc tcctaagctg ctgattaagt acgcctccaa cctggaatcc 180
 ggctgtgccag ccagattttc tggctctgga tctggcaccg acttcaccct gaccatcagc 240
 tctgtggaac ctgaggactt cgccacctac tactgccagc actcttggga gatcccacct 300
 acctttggcg gaggcaccaa gctggaaatc aaaagagggtg gcggaggatc tggcgggtggt 360
 gggtcaggcg gaggcggatc tcaggttcag ttggttcagt ctggcgccga ggttgtgaaa 420
 cctggcgctt ctgtgaagct gtcctgcaag gcctccggct acatcttcac cagctactac 480

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atgtactggg tcaagcaggc ccctggacag ggacttgagt ggatcggcga gatcaaccct      540
tccaacggcg acaccaactt caacgagaag ttcaagtcca aggctaccct gaccgtggac      600
aagtctgcct ccaccgctta catggaactg tctagcctga gaagcgagga caccgccgtg      660
tactactgca ccagatccga cggcagaaac gacatggatt cttggggcca gggcaccctg      720
gttacagtgt ccagt                                           735

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<210> 45
 <211> 223
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> SL335 Heavy chain

<400> 45

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

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

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

Ser Ser Ile Ser Ser Ser Gly Arg Tyr Ile His Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser 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 Glu Thr Val Met Ala Gly Lys Ala Leu Asp Tyr Trp Gly Gln
 100 105 110

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

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Glu Gly Thr Ala Ala
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Ser
 210 215 220

<210> 46
 <211> 215
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> SL335 Light chain

<400> 46

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

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

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

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

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

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

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

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

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

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

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

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

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

Ser Phe Asn Arg Gly Glu Ser
 210 215

<210> 47
 <211> 245
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> hu5c8 scFv

<400> 47

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

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

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

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

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

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

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
 115 120 125

Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala Ser
 130 135 140

Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Tyr Tyr
 145 150 155 160

Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly

165

170

175

Glu Ile Asn Pro Ser Asn Gly Asp Thr Asn Phe Asn Glu Lys Phe Lys
180 185 190

Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ala Ser Thr Ala Tyr Met
195 200 205

Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Thr
210 215 220

Arg Ser Asp Gly Arg Asn Asp Met Asp Ser Trp Gly Gln Gly Thr Leu
225 230 235 240

Val Thr Val Ser Ser
245

<210> 48

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> hu5c8 scFv linked to N term of variable heavy chain of SL335

<400> 48

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

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

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

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

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

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

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
115 120 125

Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala Ser
130 135 140

Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Tyr Tyr
145 150 155 160

Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly
165 170 175

Glu Ile Asn Pro Ser Asn Gly Asp Thr Asn Phe Asn Glu Lys Phe Lys
180 185 190

Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ala Ser Thr Ala Tyr Met
195 200 205

Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Thr
210 215 220

Arg Ser Asp Gly Arg Asn Asp Met Asp Ser Trp Gly Gln Gly Thr Leu
225 230 235 240

Val Thr Val Ser Ser
245

<210> 49
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-TNF-alpha Fv, VH

<400> 49

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 Tyr Val Phe Thr Asp Tyr
20 25 30

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 50
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-TNF-alpha Fv, VL

<400> 50

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

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

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

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

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

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

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

<210> 51
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-TNF-alpha dsFv, VH

<400> 51

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 Tyr Val Phe Thr Asp Tyr
20 25 30

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 52
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-TNF-alpha dsFv, VL

<400> 52

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

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

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

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

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

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

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

<210> 53
<211> 119
<212> PRT

<213> Artificial Sequence

<220>

<223> anti-IL-23 Fv, VH

<400> 53

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 Thr Tyr
20 25 30

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

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

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

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

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

Thr Leu Val Thr Val Ser Ser
115

<210> 54

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-IL-23 Fv, VL

<400> 54

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 Gly Ile Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser 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 Tyr Asn Ile Tyr Pro Tyr
85 90 95

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

<210> 55
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-IL-23 dsFv, VH

<400> 55

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 Thr Tyr
20 25 30

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

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

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

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

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

Thr Leu Val Thr Val Ser Ser
115

<210> 56
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-IL-23 dsFv, VL

<400> 56

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 Gly Ile Ser Ser Trp
 20 25 30

 Leu Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser 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 Tyr Asn Ile Tyr Pro Tyr
 85 90 95

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

 <210> 57
 <211> 117
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> anti-IFNAR1 Fv, VH

 <400> 57

 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 Ile Phe Thr Asn Tyr
 20 25 30

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

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

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

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

Val Thr Val Ser Ser
115

<210> 58
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-IFNAR1 Fv, VL

<400> 58

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

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

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

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

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

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

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

<210> 59
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-IFNAR1 dsFv, VH

<400> 59

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 Ile Phe Thr Asn Tyr
20 25 30

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

Gly Ile Ile Tyr Pro Gly Asp Ser Asp Ile Arg Tyr Ser Pro Ser Phe

50

55

60

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

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

Val Thr Val Ser Ser
115

<210> 60
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-IFNAR1 dsFv, VL

<400> 60

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

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

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

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

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

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

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

<210> 61
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR1

<400> 61

Ser Tyr Gly Ile Ser
1 5

<210> 62

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VH CDR2

<400> 62

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

Gly

<210> 63

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VH CDR3

<400> 63

Leu Gly His Cys Gln Arg Gly Ile Cys Ser Asp Ala Leu Asp Thr
1 5 10 15

<210> 64

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VH CDR2

<400> 64

Arg Ile Asn Thr Tyr Asn Gly Asn Thr Gly Tyr Ala Gln Arg Leu Gln
1 5 10 15

Gly

<210> 65

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VH CDR1

<400> 65

Asn Tyr Gly Ile His
1 5

<210> 66
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR2

<400> 66

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

Gly

<210> 67
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR3

<400> 67

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

<210> 68
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR1

<400> 68

Ser Tyr Ala Met Ser
1 5

<210> 69
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR2

<400> 69

Val Ile Ser His Asp Gly Gly Phe Gln Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 70
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR3

<400> 70

Ala Gly Trp Leu Arg Gln Tyr Gly Met Asp Val
1 5 10

<210> 71
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR1

<400> 71

Ala Tyr Trp Ile Ala
1 5

<210> 72
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR2

<400> 72

Met Ile Trp Pro Pro Asp Ala Asp Ala Arg Tyr Ser Pro Ser Phe Gln
1 5 10 15

Gly

<210> 73
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR3

<400> 73

Leu Tyr Ser Gly Ser Tyr Ser Pro
1 5

<210> 74

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

<220>
<223> Anti-serum albumin VH CDR1

<400> 74

Ala Tyr Ser Met Asn
1 5

<210> 75
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR2

<400> 75

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

Gly

<210> 76
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VH CDR3

<400> 76

Glu Thr Val Met Ala Gly Lys Ala Leu Asp Tyr
1 5 10

<210> 77
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR1

<400> 77

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

<210> 78
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR2

<400> 78

Gly Ala Ser Arg Leu Glu Ser

1 5

<210> 79

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR3

<400> 79

Gln Gln Ser Asp Ser Val Pro Val Thr

1 5

<210> 80

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR1

<400> 80

Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn

1 5 10

<210> 81

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR2

<400> 81

Ala Ala Ser Ser Leu Gln Ser

1 5

<210> 82

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR3

<400> 82

Gln Gln Ser Tyr Ser Thr Pro Pro Tyr Thr

1 5 10

<210> 83

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

<220>
<223> Anti-serum albumin VL CDR1

<400> 83

Arg Ala Ser Gln Ser Ile Phe Asn Tyr Val Ala
1 5 10

<210> 84
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR2

<400> 84

Asp Ala Ser Asn Arg Ala Thr
1 5

<210> 85
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR3

<400> 85

Gln Gln Arg Ser Lys Trp Pro Pro Thr Trp Thr
1 5 10

<210> 86
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR1

<400> 86

Arg Ala Ser Glu Thr Val Ser Ser Arg Gln Leu Ala
1 5 10

<210> 87
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR2

<400> 87

Gly Ala Ser Ser Arg Ala Thr
1 5

<210> 88
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR3

<400> 88

Gln Gln Tyr Gly Ser Ser Pro Arg Thr
1 5

<210> 89
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR1

<400> 89

Arg Ala Ser Gln Ser Val Ser Ser Ser Ser Leu Ala
1 5 10

<210> 90
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR3

<400> 90

Gln Lys Tyr Ser Ser Tyr Pro Leu Thr
1 5

<210> 91
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin VL CDR1

<400> 91

Arg Ala Ser Gln Ser Val Gly Ser Asn Leu Ala
1 5 10

<210> 92
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR2

<400> 92

Gly Ala Ser Thr Gly Ala Thr

1 5

<210> 93

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin VL CDR3

<400> 93

Gln Gln Tyr Tyr Ser Phe Leu Ala Lys Thr

1 5 10

<210> 94

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, heavy chain variable domain (VH domain)

<400> 94

Gln Val Gln Leu Leu 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 Val

35 40 45

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

50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Val Tyr

65 70 75 80

Met Glu Leu Ser Gly Leu Lys Ser Asp Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Leu Gly His Cys Gln Arg Gly Ile Cys Ser Asp Ala Leu Asp

100 105 110

Thr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

115 120

<210> 95
<211> 124
<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, heavy chain variable domain (VH domain)

<400> 95

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

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

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

Gly Arg Ile Asn Thr Tyr Asn Gly Asn Thr Gly Tyr Ala Gln Arg Leu
50 55 60

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

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

Ala Arg Leu Gly His Cys Gln Arg Gly Ile Cys Ser Asp Ala Leu Asp
100 105 110

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

<210> 96
<211> 125
<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, heavy chain variable domain (VH domain)

<400> 96

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

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

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

Ala Ser 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 Arg Asn Thr Val His
65 70 75 80

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

Ala Arg Asp Val His Tyr Tyr Gly Ser Gly Ser Tyr Tyr Asn Ala Phe
100 105 110

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

<210> 97

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, heavy chain variable domain (VH domain)

<400> 97

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 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 Leu
35 40 45

Ser Val Ile Ser His Asp Gly Gly Phe Gln Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val 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 Gly Trp Leu Arg Gln Tyr Gly Met Asp Val Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 98

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, heavy chain variable domain (VH domain)

<400> 98

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

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

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

Gly Met Ile Trp Pro Pro Asp Ala Asp Ala Arg Tyr Ser Pro Ser Phe
50 55 60

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

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

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

Val Thr Val Ser Ser
115

<210> 99

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, heavy chain variable domain (VH domain)

<400> 99

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

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

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

Ser Ser Ile Ser Ser Ser Gly Arg Tyr Ile His Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser 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 Glu Thr Val Met Ala Gly Lys Ala Leu Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 100

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, light chain variable domain (VL domain)

<400> 100

Glu Leu Val Leu 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 Arg Tyr
 20 25 30

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

Tyr Gly Ala Ser Arg Leu Glu 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 Asp Ser Val Pro Val
 85 90 95

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

<210> 101

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, light chain variable domain (VL domain)

<400> 101

Asp Ile Val Leu 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

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

<210> 102

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, light chain variable domain (VL domain)

<400> 102

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

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

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

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

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

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

Thr Trp Thr Phe Gly Gln Gly Thr Arg Val Asp Ile Lys Arg
100 105 110

<210> 103

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

<220>
<223> Anti-serum albumin, light chain variable domain (VL domain)

<400> 103

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

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

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

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

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

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

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

<210> 104
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-serum albumin, light chain variable domain (VL domain)

<400> 104

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

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

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

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

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

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

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

<210> 105

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Anti-serum albumin, light chain variable domain (VL domain)

<400> 105

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

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

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

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

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

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

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