80. The process of claim 79, wherein the antibody is recovered from the host cell culture medium.

81. Use of an antibody of any one of claims 1-73 in the manufacture of a medicament for treating a disorder associated with pathological angiogenesis.

82. The use of claim 81, wherein the disorder is cancer, a disease caused by ocular revascularization, polycystic ovary disease, endometriosis, or uterus fibroids.

83. The use of claim 82, wherein the cancer is from the group consisting of breast cancer, colorectal cancer, pancreatic cancer, non-small cell lung cancer, non-Hodgkins lymphoma (NHL), renal cancer, prostate cancer, liver cancer, head and neck cancer, melanoma, ovarian cancer, mesothelioma, and multiple myeloma.

84. The use of claim 83, wherein the medicament further comprises a second therapeutic agent.

85. The use of claim 84, wherein the second therapeutic agent is an agent selected from the group consisting of an anti-angiogenic agent, an anti-neoplastic composition, a chemotherapeutic agent and a cytotoxic agent.

86. The use of claim 85, wherein the anti-angiogenic agent is an anti-hVEGF antibody capable of binding to the same VEGF epitope as the antibody A4.6.1.

87. The use of claim 82, wherein the disease caused by ocular revascularization is diabetic blindness, retinopathy, primary diabetic retinopathy, age-induced macular degeneration, or rubeosis.

88. Use of an Fab antibody of any one of claims 1-73 in the manufacture of a medicament for treating a mammal suffering from or at risk of developing an inflammatory or immune disorder.

SEQUENCE LISTING

<110> Genentech, Inc.

<120> ANTI-VEGF ANTIBODIES

<130> 11669.251WOU1

<140> PCT/US2004/024662
<141> 2004-07-30

<150> US 60/491,877
<151> 2003-08-01

<150> US 60/516,495
<151> 2003-11-01

<150> US 60/570,912
<151> 2004-05-12

<150> US 60/571,239
<151> 2004-05-13

<150> US 60/576,315
<151> 2004-06-01

<150> US 60/580,757
<151> 2004-06-18

<160> 934

<170> PatentIn version 3.3

<210> 1
<211> 6
<212> PRT
<213> Artificial

<220>
<223> CDR-H2

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa is Ile, Val, or any other hydrophobic amino acid

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is any amino acid

<400> 1

Gly Xaa Thr Pro Xaa Gly
1 5

<210> 2
<211> 5
<212> PRT
<213> Artificial

<220>
<223> CDR-H1

<220>

<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa is any amino acid

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa is Tyr or Phe

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa is Trp or Leu

<400> 2

Xaa Xaa Xaa Ile His
1 5

<210> 3
<211> 51
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (22)..(22)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (26)..(26)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (28)..(28)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (29)..(29)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (31)..(31)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (32)..(32)
<223> s is g or c

<400> 3
gcagcttctg gcttcaccat tkccgmtkmt ksgatacact gggtgcgtca g 51

<210> 4
<211> 72
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (23)..(23)
<223> s is g or c

<220>
<221> misc_feature
<222> (28)..(28)
<223> r is a or g

<220>
<221> misc_feature
<222> (35)..(35)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (38)..(38)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (43)..(43)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (44)..(44)
<223> m is a or c

<220>
<221> misc_feature
<222> (49)..(49)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (50)..(50)
<223> m is a or c

<400> 4
aagggcctgg aatgggttgc agstattrct cctgstgstg gtkmtactkm ttatgccgat 60

agcgtcaagg gc 72

<210> 5
<211> 66
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (25)..(25)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (26)..(26)
<223> y is independently c or t

<220>
<221> misc_feature
<222> (29)..(29)
<223> y is independently c or t

<220>
<221> misc_feature
<222> (31)..(31)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (32)..(32)
<223> y is independently c or t

<220>
<221> misc_feature
<222> (34)..(34)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (35)..(35)
<223> y is independently c or t

<220>
<221> misc_feature
<222> (37)..(37)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (38)..(38)
<223> y is independently c or t

<220>
<221> misc_feature
<222> (40)..(40)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (43)..(43)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (44)..(44)
<223> m is a or c

<400> 5
actgccgtct attattgtgc acgckytgyt kytkytsyts cakmtgctat ggactactgg 60

ggtcaa 66

<210> 6
<211> 55
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature

<222> (16)..(16)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (17)..(17)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (20)..(20)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (23)..(23)
<223> y is c or t

<220>
<221> misc_feature
<222> (25)..(25)
<223> k is g or t

<220>
<221> misc_feature
<222> (28)..(28)
<223> r is a or g

<220>
<221> misc_feature
<222> (32)..(32)
<223> s is independently g or c

<400> 6
acctgccgtg ccagtsmagm tgytkccrct gstgtagcct ggtatcaaca gaaac 55

<210> 7
<211> 54
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(16)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (17)..(17)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (19)..(19)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (28)..(28)
<223> k is independently g or t

<220>
<221> misc_feature

<222> (29)..(29)
<223> y is c or t

<220>
<221> misc_feature
<222> (34)..(34)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (35)..(35)
<223> m is independently a or c

<400> 7
ccgaagcttc tgattkmtkc cgcatcckyt ctckmttctg gagtcccttc tcgc 54

<210> 8
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(16)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (17)..(17)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (22)..(22)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (25)..(25)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (26)..(26)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (28)..(28)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (31)..(31)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (37)..(37)
<223> s is independently g or c

<400> 8
gcaacttatt actgtsmaca akcckmtrct rctcctscaa cgttcggaca gggtacc 57

<210> 9
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(16)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (17)..(17)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (23)..(23)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (25)..(25)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (26)..(26)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (29)..(29)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (31)..(31)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (32)..(32)
<223> m is independently a or c

<220>
<221> misc_feature
<222> (37)..(37)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (38)..(38)
<223> s is independently g or c

<400> 9
gcaacttatt actgtrmaca agstkmtgst rmccctksga cgttcggaca gggtacc 57

<210> 10
<211> 51
<212> DNA

<213> Artificial

<220>
<223> Oligonucelotide

<220>
<221> misc_feature
<222> (22)..(22)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (27)..(27)
<223> m is a or c

<220>
<221> misc_feature
<222> (29)..(29)
<223> w is a or t

<220>
<221> misc_feature
<222> (31)..(31)
<223> y is c or t

<220>
<221> misc_feature
<222> (32)..(32)
<223> k is independently g or t

<400> 10
gcagcttctg gcttcaccat tkccgamtwc ykgatacact gggtgcgtca g 51

<210> 11
<211> 72
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (23)..(23)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (25)..(25)
<223> r is a or g

<220>
<221> misc_feature
<222> (29)..(29)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (31)..(31)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (34)..(34)
<223> k is g or t

<220>
<221> misc_feature
<222> (38)..(38)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (41)..(41)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (44)..(44)
<223> w is independently a or t

<220>
<221> misc_feature
<222> (47)..(47)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (50)..(50)
<223> w is independently a or t

<400> 11
aagggcctgg aatgggttgc agstrttasc scakctgstg sttwcasctw ctatgccgat 60

agcgtcaagg gc 72

<210> 12
<211> 66
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (26)..(26)
<223> w is independently a or t

<220>
<221> misc_feature
<222> (28)..(28)
<223> r is a or g

<220>
<221> misc_feature
<222> (32)..(32)
<223> w is independently a or t

<220>
<221> misc_feature
<222> (35)..(35)
<223> w is independently a or t

<220>
<221> misc_feature
<222> (37)..(37)
<223> m is a or c

<220>
<221> misc_feature

<222> (40)..(40)
<223> s is g or c

<220>
<221> misc_feature
<222> (44)..(44)
<223> w is independently a or t

<400> 12
actgccgtct attattgtgc acgctwcrtt twctwcmtcs catwcgctat ggactactgg 60

ggtcaa 66

<210> 13
<211> 55
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(16)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (21)..(21)
<223> m is a or c

<220>
<221> misc_feature
<222> (22)..(22)
<223> r is a or g

<220>
<221> misc_feature
<222> (25)..(25)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (29)..(29)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (31)..(31)
<223> k is independently g or t

<400> 13
acctgccgtg ccagtsaaga mrttkccasc kctgtagcct ggtatcaaca gaaac 55

<210> 14
<211> 54
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature

<222> (17)..(17)
<223> w is independently a or t

<220>
<221> misc_feature
<222> (19)..(19)
<223> k is g or t

<220>
<221> misc_feature
<222> (29)..(29)
<223> w is independently a or t

<220>
<221> misc_feature
<222> (35)..(35)
<223> w is independently a or t

<400> 14
ccgaagcttc tgatttwckc cgcatcctwc ctctwctctg gagtcccttc tcgc 54

<210> 15
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(16)
<223> v is independently a, c, or g

<220>
<221> misc_feature
<222> (18)..(18)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (19)..(19)
<223> v is independently a, c, or g

<220>
<221> misc_feature
<222> (21)..(21)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (22)..(22)
<223> k is g or t

<220>
<221> misc_feature
<222> (26)..(26)
<223> w is a or t

<220>
<221> misc_feature
<222> (29)..(29)
<223> s is independently g or c

<220>
<221> misc_feature

<222> (32)..(32)
<223> s is independently g or c

<220>
<221> misc_feature
<222> (37)..(37)
<223> s is independently g or c

<400> 15
gcaacttatt actgtvarva rkcctwcasc ascctscaa cgttcggaca gggtacc 57

<210> 16
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(16)
<223> v is independently a, c, or g

<220>
<221> misc_feature
<222> (18)..(18)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (19)..(19)
<223> v is independently a, c, or g

<220>
<221> misc_feature
<222> (21)..(21)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (23)..(23)
<223> s is g or c

<220>
<221> misc_feature
<222> (26)..(26)
<223> w is a or t

<220>
<221> misc_feature
<222> (28)..(28)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (31)..(31)
<223> r is independently a or g

<220>
<221> misc_feature
<222> (38)..(38)
<223> k is independently g or t

<400> 16
gcaacttatt actgtvarva rgsttwckct racccttkga cgttcggaca gggtacc 57

<210> 17
<211> 14
<212> PRT
<213> Artificial

<220>
<223> Epitope tag

<400> 17

Met Ala Asp Pro Asn Arg Phe Arg Gly Lys Asp Leu Gly Gly
1 5 10

<210> 18
<211> 35
<212> PRT
<213> Artificial

<220>
<223> Leucine zipper

<400> 18

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

Asn Tyr His Leu Glu Asn Glu Val Ala Arg Leu Lys Lys Leu Val Gly
20 25 30

Glu Arg Gly
35

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

<220>
<223> YADS1 Fab light chain

<400> 19

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 Ala Ser Tyr Ser Ser
20 25 30

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

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

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

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

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

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

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

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

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

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

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

Asn Arg Gly Glu Cys
210

<210> 20
<211> 252
<212> PRT
<213> Artificial

<220>
<223> YADS1 Fab heavy chain

<400> 20

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Tyr Asp Asp Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ala Pro Ser Tyr Gly Tyr
65 70 75 80

Thr Asp Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

```
Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Asp Ala Ser Tyr Ser
        115                 120                 125

Tyr Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
    130                 135                 140

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
145                 150                 155                 160

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
                165                 170                 175

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
            180                 185                 190

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
        195                 200                 205

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
    210                 215                 220

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
225                 230                 235                 240

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 21
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YADS2 Fab light chain

<400> 21

```
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 Tyr Ala Tyr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Tyr Ser Ser Pro Asp
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> 22
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 Fab heavy chain

<400> 22

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Asp Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

```
Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 23
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YADS3 Fab light chain

<400> 23

```
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 Ala Ser Tyr Tyr Asp
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Tyr Ala Pro Ala
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> 24
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS3 Fab heavy chain

<400> 24

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

```
Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Ala Pro Tyr Ser Gly Ser
65                  70                  75                  80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ser
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 25
<211> 48
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<400> 25
gcagcttctg gcttcgctat ttatgattat gatatacact gggtgcgt 48

<210> 26
<211> 60
<212> DNA
<213> Artificial

<220>

<223> Oligonucleotide

<220>
<221> misc_feature
<222> (16)..(17)
<223> n is independently a, t, g, or c

<220>
<221> misc_feature
<222> (18)..(18)
<223> k is g or t

<400> 26
ctggaatggg ttgcannkat tgctccatat gctggtgcta ctgcttatgc cgatagcgtc 60

<210> 27
<211> 54
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (19)..(20)
<223> n is independently a, t, g, or c

<220>
<221> misc_feature
<222> (21)..(21)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (25)..(26)
<223> n is independently a, t, g, or c

<220>
<221> misc_feature
<222> (27)..(27)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (31)..(32)
<223> n is independently a, t, g, or c

<220>
<221> misc_feature
<222> (33)..(33)
<223> k is independently g or t

<220>
<221> misc_feature
<222> (34)..(35)
<223> n is independently a, t, g, or c

<220>
<221> misc_feature
<222> (36)..(36)
<223> k is independently g or t

<220>
<221> misc_feature

<222> (37)..(38)
<223> n is independently a, t, g, or c

<220>
<221> misc_feature
<222> (39)..(39)
<223> k is independently g or t

<400> 27
gtctattatt gtagccgcnn ktctnnkgct nnknnknnkg ctatggacta ctgg 54

<210> 28
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6 Fab light chain

<400> 28

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr 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>  29
<211>  226
<212>  PRT
<213>  Artificial

<220>
<223>  G6 Fab heavy chain

<400>  29

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 Ile Ser Asp Tyr
            20                  25                  30


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


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


Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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


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

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

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

Thr His
225

<210> 30
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-23 Fab light chain

<400> 30

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Gly Tyr Ala Asn Pro Trp
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>  31
<211>  227
<212>  PRT
<213>  Artificial

<220>
<223>  G6-23 Fab heavy chain

<400>  31

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 Ile Ser Asp Tyr
            20                  25                  30


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


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


Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 32
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-31 Fab light chain

<400> 32

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Gly Asn Pro Phe
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>  33
<211>  214
<212>  PRT
<213>  Artificial

<220>
<223>  G6-8 Fab light chain

<400>  33

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 Asp Val Ser Thr Ala
            20                  25                  30


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


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


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


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Ala Gly Ser Pro Leu
                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> 34
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-23.1 Fab light chain

<400> 34

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Gly Phe Ala Asn Pro Phe
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> 35
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G6-23.1 Fab heavy chain

<400> 35

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 Ile Ser Asp Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 36
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G6-23.2 Fab heavy chain

<400> 36

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 Ile Ser Asp Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
    210                 215                 220

Lys Thr His
225
```

<210> 37
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20 Fab light chain

<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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr 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> 38
<211> 228
<212> PRT
<213> Artificial

<220>
<223> B20 Fab heavy chain

<400> 38

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 Ile Asn Ala Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Trp Gly His Ser Thr Ser Pro Trp Ala Met Asp Tyr Trp Gly
100 105 110

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

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

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

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

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

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

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

Asp Lys Thr His
225

<210> 39
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-4 Fab light chain

<400> 39

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 Val Ile Arg Arg Ser
20 25 30

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

Tyr Ala Ala Ser Asn Leu Ala 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 Asn Thr Ser Pro Leu
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> 40
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-4.1 Fab light chain

<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 Val Ile Arg Arg Ser
20 25 30

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

Tyr Ala Ala Ser Asn Leu Ala 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 Asn Thr Ser Pro Leu
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> 41
<211> 228
<212> PRT
<213> Artificial

<220>
<223> B20-4.1 Fab heavy chain

<400> 41

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 Ser Ile Asn Gly Ser
20 25 30

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

Gly Ala Ile Trp Pro Phe Gly Gly Tyr Thr His Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Trp Gly His Ser Thr Ser Pro Trp Ala Met Asp Tyr Trp Gly
100 105 110

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

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

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

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

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

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

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

Asp Lys Thr His
225

<210> 42
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS1 Fab light chain

<400> 42

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 Tyr Ala Tyr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Tyr Ser Pro Tyr
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> 43
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS1 Fab heavy chain

<400> 43

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 44
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6-6a Light chain CDR1

<400> 44

Arg Ala Ser Gln Asn Val Ala Thr Phe Leu Ala
1 5 10

<210> 45
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6-6a Light chain CDR2

<400> 45

Ser Ala Ser Asn Leu Ala Ser
1 5

<210> 46
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-6a Light chain CDR3

<400> 46

Gln Gln Ser Tyr Gly Ser Leu Pro Thr
1 5

<210> 47
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-6a Fab light chain

<400> 47

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 Asn Val Ala Thr Phe
20 25 30

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

Tyr Ser Ala Ser Asn Leu Ala 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 Gly Ser Pro Leu
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> 48
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6-23 CDR1 light chain

<400> 48

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1 5 10

<210> 49
<211> 7
<212> PRT
<213> Artificial

<220>

<223> G6-23 CDR2 light chain

<400> 49

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 50
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-23 CDR3 light chain

<400> 50

Gln Gln Gly Tyr Ala Asn Pro Trp Thr
1 5

<210> 51
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-23 Fab light chain

<400> 51

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ala Asn Pro Trp
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> 52
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-31 CDR3 light chain

<400> 52

```
Gln Gln Gly Tyr Gly Asn Pro Phe Thr
1               5
```

<210> 53
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-31 Fab light chain

<400> 53

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Gly Asn Pro Phe
                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> 54
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-2a CDR3 light chain

<400> 54

```
Gln Gln Gly Tyr Gly Ser Pro Leu Thr
1               5
```

<210> 55
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-2a Fab light chain

<400> 55

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Gly Ser Pro Leu
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> 56
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6-2b CDR1 light chain

<400> 56

Arg Ala Ser Gln Gly Gly Thr Thr Ser Leu Ala
1 5 10

<210> 57
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6-2b CDR2 light chain

<400> 57

Ser Ala Ser Asn Leu Ala Ser
1 5

<210> 58
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-2b CDR3 light chain

<400> 58

Gln Gln Gly Tyr Gly Ser Pro Phe Thr
1 5

<210> 59
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-2b Fab light chain

<400> 59

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 Gly Thr Thr Ser
20 25 30

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

Tyr Ser Ala Ser Asn Leu Ala 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 Gly Tyr Gly Ser Pro Phe
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> 60
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6-6b CDR1 light chain

<400> 60

Arg Ala Ser Gln Ile Val Thr Asn Ser Leu Ala
1 5 10

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

<220>
<223> G6-6b CDR2 light chain

<400> 61

Leu Ala Ser Ser Leu Ala Ser
1 5

<210> 62
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-2b CDR3 light chain

<400> 62

Gln Gln Gly Ala Thr Asp Pro Arg Thr
1 5

<210> 63
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-6b Fab light chain

<400> 63

```
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 Ile Val Thr Asn Ser
            20                  25                  30

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

Tyr Leu Ala Ser Ser Leu Ala Ser Glu 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 Gly Ala Thr Asp Pro Arg
                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> 64
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-48 CDR3 light chain

<400> 64

```
Gln Gln Gly Thr Ser Ser Pro Pro Thr
1               5
```

<210> 65
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-48 Fab light chain

<400> 65

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Thr Ser Ser 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> 66
<211> 8
<212> PRT
<213> Artificial

<220>
<223> G6-1a CDR3 light chain

<400> 66

Gln Gln Gly Thr Gly Asn Pro Thr
1 5

<210> 67
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-1a Fab light chain

<400> 67

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Thr Gly Asn 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> 68
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-8 CDR3 light chain

<400> 68

```
Gln Gln Gly Ala Gly Ser Pro Leu Thr
1               5
```

<210> 69
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-8 Fab light chain

<400> 69

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Ala Gly Ser Pro Leu
                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> 70
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6-3 CDR2 light chain

<400> 70

```
Ala Ala Ser Phe Leu Tyr Ser
1               5
```

<210> 71
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-3 CDR3 light chain

<400> 71

```
Gln Gln Gly Ser Gly His Pro Phe Thr
1               5
```

<210> 72
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-3 Fab light chain

<400> 72

```
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 Asp Val Ser Thr Ala
            20                  25                  30
```

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Ser Gly His Pro Phe
                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> 73
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-34 CDR3 light chain

<400> 73

```
Gln Gln Gly Thr Gly Ser Pro Leu Thr
1               5
```

<210> 74
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G-6-34 Fab light chain

<400> 74

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Thr Gly Ser Pro Leu
                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> 75
<211> 9
<212> PRT
<213> Artificial

<220>

<223> G6-4a CDR3 light chain

<400> 75

Gln Gln Gly Ser Gly Asn Pro Phe Thr
1 5

<210> 76
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-4a Fab light chain

<400> 76

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Ser Gly Asn Pro Phe
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> 77
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-1a CDR3 light chain

<400> 77

Gln Gln Gly Thr Gly Asn Pro Leu Thr
1 5

<210> 78
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-1a Fab light chain

<400> 78

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Thr Gly Asn Pro Leu
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> 79
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-4b CDR3 light chain

<400> 79

```
Gln Gln Gly Ser Gly Ser Pro Phe Thr
1               5
```

<210> 80
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-4b Fab light chain

<400> 80

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Ser Gly Ser Pro Phe
                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> 81
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-5 CDR3 light chain

<400> 81

```
Gln Gln Gly Ala Gly Ser Pro Phe Thr
1               5
```

<210> 82
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-5 Fab light chain

<400> 82

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Ala Gly Ser Pro Phe
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> 83
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6-15 CDR3 light chain

<400> 83

Gln Gln Gly Val Asn Ser Pro Leu Thr
1 5

<210> 84
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6-15 Fab light chain

<400> 84

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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Val Asn Ser Pro Leu
                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>  85
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  B20 CDR-L1

<400>  85

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1               5                   10
```

<210> 86
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20 CDR-L2

<400> 86

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 87
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20 CDR-L3

<400> 87

Gln Gln Ser Tyr Thr Thr Pro Pro Thr
1 5

<210> 88
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20 LC

<400> 88

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr 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> 89
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-50 CDR-L1

<400> 89

```
Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1               5                   10
```

<210> 90
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-50 CDR-L2

<400> 90

```
Ser Ala Ser Phe Leu Tyr Ser
1               5
```

<210> 91
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-50 CDR-L3

<400> 91

```
Gln Gln Ser Tyr Gly Ala Pro Leu Thr
1               5
```

<210> 92
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-50 LC

<400> 92

```
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 Asp Val Ser Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Gly Ala Pro Leu
                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> 93
<211> 11

<212> PRT
<213> Artificial

<220>
<223> B20-59 CDR-L1

<400> 93

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1 5 10

<210> 94
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-59 CDR-L2

<400> 94

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 95
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-59 CDR-L3

<400> 95

Gln Gln Ser Tyr Ser Ser Pro Leu Thr
1 5

<210> 96
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-59 LC

<400> 96

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

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

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

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

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

```
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Ser Pro Leu
                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> 97
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-73 CDR-L1

<400> 97

```
Arg Ala Ser Gln Gly Val Arg Thr Ser Leu Ala
1               5                   10
```

<210> 98
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-73 CDR-L2

<400> 98

```
Gly Ala Ser Thr Leu Ala Ser
1               5
```

<210> 99
<211> 9

<212> PRT
<213> Artificial

<220>
<223> B20-73 CDR-L3

<400> 99

Gln Gln Ser Tyr Ala Ser Pro Leu Thr
1 5

<210> 100
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-73 LC

<400> 100

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 Val Arg Thr Ser
20 25 30

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

Tyr Gly Ala Ser Thr Leu Ala 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 Ala Ser Pro Leu
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> 101
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-3 CDR-L1

<400> 101

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

<210> 102
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-3 CDR-L2

<400> 102

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 103
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-3 CDR-L3

<400> 103

Gln Gln Ser Tyr Ala Ser Pro Leu Thr
1 5

<210> 104
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-3 LC

<400> 104

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 Val Ile Gly Arg Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ala Ser Pro Leu
                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> 105
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-8 CDR-L1

<400> 105

```
Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1               5                   10
```

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

<220>
<223> B20-8 CDR-L2

<400> 106

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 107
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-8 CDR-L3

<400> 107

Gln Gln Ser Tyr Gly Ser Pro Leu Thr
1 5

<210> 108
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-8 LC

<400> 108

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Gly Ser Pro Leu
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> 109
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-2 CDR-L1

<400> 109

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

<210> 110
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-2 CDR-L2

<400> 110

Ser Ala Ser Asn Leu Glu Ser
1 5

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

<220>
<223> B20-2 CDR-L3

<400> 111

Gln Gln Ser Tyr Ala Ala Pro Leu Thr
1 5

<210> 112
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-2 LC

<400> 112

```
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 Asn Val Arg Ser Ser
            20                  25                  30

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

Tyr Ser Ala Ser Asn 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 Tyr Ala Ala Pro Leu
                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> 113
<211> 11
<212> PRT
<213> Artificial

<220>

<223> B20-4a CDR-L1

<400> 113

Arg Ala Ser Gln Val Ile Gly Thr Ser Leu Ala
1 5 10

<210> 114
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-4a CDR-L2

<400> 114

Ser Ala Ser Asn Leu Ala Ser
1 5

<210> 115
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-4a CDR-L3

<400> 115

Gln Gln Ser Tyr Gly Ser Pro Leu Thr
1 5

<210> 116
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-4a LC

<400> 116

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

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

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

Tyr Ser Ala Ser Asn Leu Ala 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 Gly Ser Pro Leu
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> 117
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-4 CDR-L1

<400> 117

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

<210> 118
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-4 CDR-L2

<400> 118

```
Ala Ala Ser Asn Leu Ala Ser
1               5
```

<210> 119
<211> 9
<212> PRT
<213> Artificial

<220>

<223> B20-4 CDR-L3

<400> 119

Gln Gln Ser Asn Thr Ser Pro Leu Thr
1 5

<210> 120
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-4 LC

<400> 120

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 Val Ile Arg Arg Ser
20 25 30

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

Tyr Ala Ala Ser Asn Leu Ala 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 Asn Thr Ser Pro Leu
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> 121
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-6 CDR-L1

<400> 121

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1   5   10

<210> 122
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-6 CDR-L2

<400> 122

Ser Ala Ser Thr Leu Ala Ser
1   5

<210> 123
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-6 CDR-L3

<400> 123

Gln Gln Ser Thr Thr Ser Pro Leu Thr
1   5

<210> 124
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-6 LC

<400> 124

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 Asp Val Ser Thr Ala
            20   25   30

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

```
Tyr Ser Ala Ser Thr Leu Ala 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 Thr Thr Ser Pro Leu
                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> 125
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-5 CDR-L1

<400> 125

```
Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1               5                   10
```

<210> 126
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-5 CDR-L2

<400> 126

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 127
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-5 CDR-L3

<400> 127

Gln Gln Ser Thr Asn Ser Pro Leu Thr
1 5

<210> 128
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-5 LC

<400> 128

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Thr Asn Ser Pro Leu
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> 129
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-1a CDR-L1

<400> 129

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

<210> 130
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-1a CDR-L2

<400> 130

Ser Ala Ser Thr Leu Glu Ser
1 5

<210> 131
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-1a CDR-L3

<400> 131

Gln Gln Ser Asn Ala Ser Pro Leu Thr
1 5

<210> 132
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-1a LC

<400> 132

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 Val Lys Asn Ser
20 25 30

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

Tyr Ser Ala Ser Thr 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 Asn Ala Ser Pro Leu
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> 133
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-1 CDR-L1

<400> 133

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

<210> 134
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-1 CDR-L2

<400> 134

Gly Ala Ser Thr Leu Ala Ser
1 5

<210> 135
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-1 CDR-L3

<400> 135

Gln Gln Ser Asn Ser Ser Pro Leu Thr
1 5

<210> 136
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-1 LC

<400> 136

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 Asp Val Arg Thr Ser
20 25 30

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

Tyr Gly Ala Ser Thr Leu Ala 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 Asn Ser Ser Pro Leu
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> 137
<211> 11
<212> PRT
<213> Artificial

<220>
<223> B20-13 CDR-L1

<400> 137

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

<210> 138
<211> 7
<212> PRT
<213> Artificial

<220>
<223> B20-13 CDR-L2

<400> 138

Ser Ala Ser Thr Leu Ala Ser
1 5

<210> 139
<211> 9
<212> PRT
<213> Artificial

<220>
<223> B20-13 CDR-L3

<400> 139

Gln Gln His Thr Asn Ser Pro Leu Thr
1 5

<210> 140
<211> 214
<212> PRT
<213> Artificial

<220>
<223> B20-13 LC

<400> 140

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 Asn Val Arg Asn Phe
20 25 30

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

Tyr Ser Ala Ser Thr Leu Ala 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 His Thr Asn Ser Pro Leu
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> 141
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623 CDR-L1

<400> 141

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1 5 10

<210> 142
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623 CDR-L2

<400> 142

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 143
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623 CDR-L3

<400> 143

Lys Gln Gly Tyr Ala Asn Pro Trp Thr
1 5

<210> 144
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623 LC

<400> 144

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

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

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Gly Tyr Ala Asn Pro Trp
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> 145
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_57 CDR-L1

<400> 145

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

<210> 146
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_57 CDR-L2

<400> 146

Ser Ala Ser Phe Leu Ser Ser
1 5

<210> 147
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_57 CDR-L3

<400> 147

Ala Gln Gly Tyr Ala Ala Pro Ser Thr
1 5

<210> 148
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_57 LC

<400> 148

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 Glu Ala Val Ser Ala Ala
20 25 30

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

Tyr Ser Ala Ser Phe Leu Ser 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 Ala Gln Gly Tyr Ala Ala Pro Ser
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> 149
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_13 CDR-L1

<400> 149

Arg Ala Ser Ala Ala Val Ala Ala Ala Val Ala
1 5 10

<210> 150
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_13 CDR-L2

<400> 150

Ser Ala Ser Phe Leu Ala Ser
1 5

<210> 151
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_13 CDR-L3

<400> 151

Ala Gln Gly Tyr Gly Ala Pro Ser Thr
1 5

<210> 152
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_13 LC

<400> 152

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 Ala Ala Val Ala Ala Ala
            20                  25                  30

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

Tyr Ser Ala Ser Phe Leu Ala 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 Ala Gln Gly Tyr Gly Ala Pro Ser
                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>  153
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G623_87 CDR-L1

<400>  153

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

<210> 154
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_87 CDR-L2

<400> 154

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 155
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_87 CDR-L3

<400> 155

Lys Gln Gly Phe Ser Asp Pro Trp Thr
1 5

<210> 156
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_87 LC

<400> 156

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 Glu Val Ala Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Gly Phe Ser Asp Pro Trp
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> 157
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_77 CDR-L1

<400> 157

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

<210> 158
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_77 CDR-L2

<400> 158

Ala Ala Ser Phe Leu Tyr Ser
1 5

<210> 159
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_77 CDR-L3

<400> 159

Lys Gln Gly Tyr Ala Asn Pro Trp Thr
1 5

<210> 160
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_77 LC

<400> 160

```
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 Glu Glu Val Ala Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Gly Tyr Ala Asn Pro Trp
                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> 161
<211> 11

<212> PRT
<213> Artificial

<220>
<223> G623_20 CDR-L1

<400> 161

Arg Ala Ser Ala Asp Val Ala Ala Ala Val Ala
1 5 10

<210> 162
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_20 CDR-L2

<400> 162

Ser Ala Ser Phe Leu Ala Ser
1 5

<210> 163
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_20 CDR-L3

<400> 163

Ala Gln Gly Ser Gly Ala Pro Ala Thr
1 5

<210> 164
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_20 LC

<400> 164

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 Ala Asp Val Ala Ala Ala
20 25 30

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

Tyr Ser Ala Ser Phe Leu Ala 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 Ala Gln Gly Ser Gly Ala Pro Ala
                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>  165
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G623_51 CDR-L1

<400>  165

Arg Ala Ser Ala Asp Ala Ser Thr Ala Val Ala
1               5                   10


<210>  166
<211>  7
<212>  PRT
<213>  Artificial

<220>
<223>  G623_51 CDR-L2

<400>  166

Ala Ala Ser Phe Leu Tyr Ser
1               5


<210>  167
<211>  9
```

<212> PRT
<213> Artificial

<220>
<223> G623_51 CDR-L3

<400> 167

Ala Gln Gly Tyr Ala Asn Pro Ala Thr
1 5

<210> 168
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_51 LC

<400> 168

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 Ala Asp Ala Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Tyr Ala Asn Pro Ala
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> 169
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_36 CDR-L1

<400> 169

Arg Ala Ser Glu Glu Ile Ser Thr Ala Val Ala
1 5 10

<210> 170
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_36 CDR-L2

<400> 170

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 171
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_36 CDR-L3

<400> 171

Lys Gln Gly Pro Ser Asp Pro Trp Thr
1 5

<210> 172
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_36 LC

<400> 172

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 Glu Glu Ile Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Gly Pro Ser Asp Pro Trp
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> 173
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_80 CDR-L1

<400> 173

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

<210> 174
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_80 CDR-L2

<400> 174

Ser Ala Ser Tyr Leu Phe Ser
1 5

<210> 175
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_80 CDR-L3

<400> 175

Lys Gln Ala Phe Ser Asn Pro Leu Thr
1 5

<210> 176
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_80 LC

<400> 176

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 Glu Val Ala Ser Ala
20 25 30

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

Tyr Ser Ala Ser Tyr Leu Phe 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 Lys Gln Ala Phe Ser Asn Pro Leu
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> 177
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_66 CDR-L1

<400> 177

```
Arg Ala Ser Pro Asp Val Ala Thr Gly Val Ala
1               5                   10
```

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

<220>
<223> G623_66 CDR-L2

<400> 178

```
Ser Ala Ser Phe Leu Ser Ser
1               5
```

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

<220>
<223> G623_66 CDR-L3

<400> 179

```
Ala Gln Ala Tyr Ala Ala Pro Ala Thr
1               5
```

<210> 180
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_66 LC

<400> 180

```
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 Pro Asp Val Ala Thr Gly
            20                  25                  30

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

Tyr Ser Ala Ser Phe Leu Ser 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 Ala Gln Ala Tyr Ala Ala Pro Ala
                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> 181
<211> 11
<212> PRT
<213> Artificial

<220>

<223> G623_33 CDR-L1

<400> 181

Arg Ala Ser Pro Ala Val Ser Ala Ala Val Ala
1 5 10

<210> 182
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_33 CDR-L2

<400> 182

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 183
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_33 CDR-L3

<400> 183

Ala Gln Gly Ser Ala Ala Pro Ala Thr
1 5

<210> 184
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_33 LC

<400> 184

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 Pro Ala Val Ser Ala Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Ser Ala Ala Pro Ala
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> 185
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_59 CDR-L1

<400> 185

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

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

<220>
<223> G623_59 CDR-L2

<400> 186

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 187
<211> 9
<212> PRT
<213> Artificial

<220>

<223> G623_59 CDR-L3

<400> 187

Ala Gln Ala Tyr Ala Ala Pro Ala Thr
1 5

<210> 188
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_59 LC

<400> 188

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 Pro Ala Val Ala Ala Gly
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Tyr Ala Ala Pro Ala
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> 189
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_22 CDR-L1

<400> 189

Arg Ala Ser Pro Ala Val Ala Ala Ala Val Ala
1   5   10

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

<220>
<223> G623_22 CDR-L2

<400> 190

Ser Ala Ser Val Leu Tyr Ser
1   5

<210> 191
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_22 CDR-L3

<400> 191

Ala Gln Ala Tyr Ala Ala Pro Ala Thr
1   5

<210> 192
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_22 LC

<400> 192

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 Pro Ala Val Ala Ala Ala
            20   25   30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Tyr Ala Ala Pro Ala
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> 193
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_29 CDR-L1

<400> 193

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

<210> 194
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_29 CDR-L2

<400> 194

Ser Ala Ser Tyr Leu Phe Ser
1 5

<210> 195
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_29 CDR-L3

<400> 195

Lys Gln Gly Phe Ser Asn Pro Trp Thr
1 5

<210> 196
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_29 LC

<400> 196

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 Glu Val Ser Thr Ala
20 25 30

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

Tyr Ser Ala Ser Tyr Leu Phe 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 Lys Gln Gly Phe Ser Asn Pro Trp
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> 197
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_49 CDR-L1

<400> 197

Arg Ala Ser Pro Asp Val Ala Thr Gly Val Ala
1 5 10

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

<220>
<223> G623_49 CDR-L2

<400> 198

Ser Ala Ser Phe Leu Ser Ser
1 5

<210> 199
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_49 CDR-L3

<400> 199

Ala Gln Ala Tyr Ala Ala Pro Ala Thr
1 5

<210> 200
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_49 LC

<400> 200

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 Pro Asp Val Ala Thr Gly
20 25 30

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

Tyr Ser Ala Ser Phe Leu Ser 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 Ala Gln Ala Tyr Ala Ala Pro Ala
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> 201
<211> 12
<212> PRT
<213> Artificial

<220>
<223> G623_58 CDR-L1

<400> 201

Arg Ala Ser Pro Ala Val Ala Ser Ala Ala Val Ala
1 5 10

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

<220>
<223> G623_58 CDR-L2

<400> 202

Ala Ala Ser Phe Leu Ala Ser
1 5

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

<220>
<223> G623_58 CDR-L3

<400> 203

Ala Gln Gly Ser Gly Ala Pro Ala Thr
1 5

<210> 204
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_58 LC

<400> 204

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 Asp Val Ala Thr Ala
20 25 30

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

Tyr Ala Ala Ser Phe Leu Ala 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 Ala Gln Gly Ser Gly Ala Pro Ala
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> 205
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_37 CDR-L1

<400> 205

```
Arg Ala Ser Gln Asp Val Ala Thr Ala Val Ala
1               5                   10
```

<210> 206
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_37 CDR-L2

<400> 206

```
Ala Ala Ser Tyr Leu Tyr Ser
1               5
```

<210> 207
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_37 CDR-L3

<400> 207

Glu Gln Ala Phe Ser Asn Pro Leu Thr
1 5

<210> 208
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_37 LC

<400> 208

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 Asp Val Ala Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Gln Ala Phe Ser Asn Pro Leu
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> 209
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_23 CDR-L1

<400> 209

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

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

<220>
<223> G623_23 CDR-L2

<400> 210

Ala Ala Ser Phe Leu Ser Ser
1 5

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

<220>
<223> G623_23 CDR-L3

<400> 211

Ala Gln Gly Ala Ala Ala Pro Ser Thr
1 5

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

<220>
<223> G623_23 LC

<400> 212

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 Ala Ala Ser Ala Ala
20 25 30

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

Tyr Ala Ala Ser Phe Leu Ser 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 Ala Gln Gly Ala Ala Ala Pro Ser
                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>  213
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G623_89 CDR-L1

<400>  213

Arg Ala Ser Gln Asp Val Ala Thr Ala Val Ala
1               5                   10


<210>  214
<211>  7
<212>  PRT
<213>  Artificial

<220>
<223>  G623_89 CDR-L2

<400>  214

Ser Ala Ser Tyr Leu Tyr Ser
1               5
```

<210> 215
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_89 CDR-L3

<400> 215

Gln Glu Gly Phe Ser Asp Pro Leu Thr
1 5

<210> 216
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_89 LC

<400> 216

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 Asp Val Ala Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Gly Phe Ser Asp Pro Leu
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> 217
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_55 CDR-L1

<400> 217

Arg Ala Ser Pro Asp Val Ala Thr Gly Val Ala
1 5 10

<210> 218
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_55 CDR-L2

<400> 218

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 219
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_55 CDR-L3

<400> 219

Ala Gln Gly Ala Gly Ala Pro Ala Thr
1 5

<210> 220
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_55 LC

<400> 220

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 Pro Asp Val Ala Thr Gly
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Ala Gly Ala Pro Ala
                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> 221
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_34 CDR-L1

<400> 221

```
Arg Ala Ser Gln Glu Ile Ala Ser Ala Val Ala
1               5                   10
```

<210> 222
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_34 CDR-L2

<400> 222

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 223
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_34 CDR-L3

<400> 223

Glu Gln Ala Phe Ser Asn Pro Leu Thr
1 5

<210> 224
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_34 LC

<400> 224

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 Glu Ile Ala Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Gln Ala Phe Ser Asn Pro Leu
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> 225
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_31 CDR-L1

<400> 225

Arg Ala Ser Pro Asp Val Ala Thr Ala Val Ala
1 5 10

<210> 226
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_31 CDR-L2

<400> 226

Ala Ala Ser Phe Leu Tyr Ser
1 5

<210> 227
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_31 CDR-L3

<400> 227

Ala Gln Gly Tyr Ala Ala Pro Ala Thr
1 5

<210> 228
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_31 LC

<400> 228

```
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 Pro Asp Val Ala Thr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Tyr Ala Ala Pro Ala
                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> 229
<211> 11

<212> PRT
<213> Artificial

<220>
<223> G623_62 CDR-L1

<400> 229

Arg Ala Ser Ala Ala Val Ala Ala Ala Val Ala
1 5 10

<210> 230
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_62 CDR-L2

<400> 230

Ala Ala Ser Phe Leu Ser Ser
1 5

<210> 231
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_62 CDR-L3

<400> 231

Ala Gln Ser Ser Ala Ala Pro Pro Thr
1 5

<210> 232
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_62 LC

<400> 232

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 Ala Ala Val Ala Ala Ala
20 25 30

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

Tyr Ala Ala Ser Phe Leu Ser 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 Ala Gln Ser Ser Ala Ala 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> 233
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_63 CDR-L1

<400> 233

Arg Ala Ser Pro Ala Ala Ser Thr Ala Val Ala
1 5 10

<210> 234
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_63 CDR-L2

<400> 234

Ala Ala Ser Phe Leu Tyr Ser
1 5

<210> 235
<211> 9

<212> PRT
<213> Artificial

<220>
<223> G623_63 CDR-L3

<400> 235

Ala Gln Gly Tyr Gly Thr Pro Ser Thr
1 5

<210> 236
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_63 LC

<400> 236

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 Pro Ala Ala Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Tyr Gly Thr Pro Ser
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> 237
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_83 CDR-L1

<400> 237

Arg Ala Ser Gln Glu Ile Ser Ser Ala Val Ala
1 5 10

<210> 238
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_83 CDR-L2

<400> 238

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 239
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_83 CDR-L3

<400> 239

Gln Glu Ala Tyr Ala Asp Pro Leu Thr
1 5

<210> 240
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_83 LC

<400> 240

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 Glu Ile Ser Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Ala Tyr Ala Asp Pro Leu
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> 241
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_64 CDR-L1

<400> 241

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

<210> 242
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_64 CDR-L2

<400> 242

Ser Ala Ser Phe Leu Ala Ser
1 5

<210> 243
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_64 CDR-L3

<400> 243

Ala Gln Ala Ala Ala Ala Pro Ser Thr
1 5

<210> 244
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_64 LC

<400> 244

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 Asp Val Ser Ala Ala
20 25 30

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

Tyr Ser Ala Ser Phe Leu Ala 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 Ala Gln Ala Ala Ala Ala Pro Ser
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> 245
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_75 CDR-L1

<400> 245

```
Arg Ala Ser Gln Glu Val Ala Ser Ala Val Ala
1               5                   10
```

<210> 246
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_75 CDR-L2

<400> 246

```
Ala Ala Ser Tyr Leu Phe Ser
1               5
```

<210> 247
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_75 CDR-L3

<400> 247

```
Glu Gln Ala Phe Ser Asn Pro Leu Thr
1               5
```

<210> 248
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_75 LC

<400> 248

```
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 Glu Val Ala Ser Ala
            20                  25                  30

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

Tyr Ala Ala Ser Tyr Leu Phe 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 Glu Gln Ala Phe Ser Asn Pro Leu
                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> 249
<211> 11
<212> PRT
<213> Artificial

<220>

<223> G623_27 CDR-L1

<400> 249

Arg Ala Ser Gln Glu Ile Ala Ser Ala Val Ala
1 5 10

<210> 250
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_27 CDR-L2

<400> 250

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 251
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_27 CDR-L3

<400> 251

Gln Lys Ala Phe Ser Asp Pro Leu Thr
1 5

<210> 252
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_27 LC

<400> 252

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 Glu Ile Ala Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Lys Ala Phe Ser Asp Pro Leu
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> 253
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_93 CDR-L1

<400> 253

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

<210> 254
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_93 CDR-L2

<400> 254

Ser Ala Ser Tyr Leu Phe Ser
1 5

<210> 255
<211> 9
<212> PRT
<213> Artificial

<220>

<223> G623_93 CDR-L3

<400> 255

Glu Gln Ala Phe Ala Asn Pro Trp Thr
1 5

<210> 256
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_93 LC

<400> 256

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 Glu Val Ala Ser Ala
20 25 30

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

Tyr Ser Ala Ser Tyr Leu Phe 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 Glu Gln Ala Phe Ala Asn Pro Trp
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> 257
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_53 CDR-L1

<400> 257

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

<210> 258
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G623_53 CDR-L2

<400> 258

Ala Ala Ser Phe Leu Ser Ser
1 5

<210> 259
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G623_53 CDR-L3

<400> 259

Glu Gln Gly Ala Gly Ala Pro Gly Thr
1 5

<210> 260
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G623_53 LC

<400> 260

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 Glu Ala Val Ser Ala Ala
20 25 30

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

```
Tyr Ala Ala Ser Phe Leu Ser 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 Glu Gln Gly Ala Gly Ala Pro Gly
                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> 261
<211> 5
<212> PRT
<213> Artificial

<220>
<223> G623 CDR-H1

<400> 261

```
Asp Tyr Trp Ile His
1               5
```

<210> 262
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G623 CDR-H2

<400> 262

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

Gly

<210> 263
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623 CDR-H3

<400> 263

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 264
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G623 HC

<400> 264

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 Ile Ser Asp Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 265
<211> 5
<212> PRT
<213> Artificial

<220>
<223> G623_15 CDR-H1

<400> 265

Glu Tyr Trp Ile His
1 5

<210> 266
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G623_15 CDR-H2

<400> 266

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

Gly

<210> 267
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_15 CDR-H3

<400> 267

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 268
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G623_15 HC

<400> 268

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 Ile Ser Glu Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 269
<211> 5
<212> PRT
<213> Artificial

<220>
<223> G623_69 CDR-H1

<400> 269

Glu Tyr Trp Ile His
1 5

<210> 270
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G623_69 CDR-H2

<400> 270

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

Gly

<210> 271
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G623_69 CDR-H3

<400> 271

Tyr Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 272
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G623_69 HC

<400> 272

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 Ile Ala Glu Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Tyr Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
    210                 215                 220

Lys Thr His
225
```

<210> 273
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_1 HVL-H1

<400> 273

```
Gly Phe Asp Ile Ser Tyr Tyr Asp Ile His
1               5                   10
```

<210> 274
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_1 CDR-H2

<400> 274

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

Gly

<210> 275
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_1 CDR-H3

<400> 275

Ala Ala Asp Tyr Ala Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 276
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_1 HC

<400> 276

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

```
Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Asp Tyr Ala Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  277
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_2 CDR-H1

<400>  277

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


<210>  278
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_2 CDR-H2

<400>  278

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


Gly
```

<210> 279
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_2 CDR-H3

<400> 279

Ser Asn Asn Tyr Ser Tyr Tyr Ala Met Asp Tyr
1 5 10

<210> 280
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_2 HC

<400> 280

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asn Ile Thr Tyr Tyr Ser Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Thr Ile Ser Pro Thr Tyr Gly Ser
65 70 75 80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Asn Asn Tyr Ser Tyr Tyr
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

```
Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190


Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205


Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220


Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240


Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  281
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_3 CDR-H1

<400>  281

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


<210>  282
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_3 CDR-H2

<400>  282

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


Gly



<210>  283
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_3 CDR-H3

<400>  283

Ser Ser Tyr Ala Tyr Tyr Ser Ala Met Asp Tyr
1               5                   10
```

<210> 284
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_3 HC

<400> 284

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

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

Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Ala Pro Tyr Ser Gly Tyr
65                  70                  75                  80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ser
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240
```

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 285
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_4 CDR-H1

<400> 285

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

<210> 286
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_4 CDR-H2

<400> 286

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

Gly

<210> 287
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_4 CDR-H3

<400> 287

Ser Thr Asn Thr Asn Tyr Tyr Ala Met Asp Tyr
1 5 10

<210> 288
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_4 HC

<400> 288

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

```
Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Asn Ile Tyr Tyr Tyr Ser Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Thr Ile Ser Pro Tyr Tyr Gly Thr
65                  70                  75                  80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Thr Asn Thr Asn Tyr Tyr
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 289
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_5 CDR-H1

<400> 289

Gly Phe Ala Ile Ser Asp Tyr Asp Ile His
1 5 10

<210> 290
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_5 CDR-H2

<400> 290

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

Gly

<210> 291
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_5 CDR-H3

<400> 291

Ser Ser Tyr Ala Tyr Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 292
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_5 HC

<400> 292

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Ala Pro Tyr Tyr Gly Ser
65 70 75 80

Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

```
Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  293
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_6 CDR-H1

<400>  293

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


<210>  294
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_6 CDR-H2

<400>  294

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

Gly

<210> 295
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_6 CDR-H3

<400> 295

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

<210> 296
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_6 HC

<400> 296

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Pro Ala Tyr Gly Ser
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

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

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 297
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_7 CDR-H1

<400> 297

Gly Phe Ser Ile Asp Tyr Tyr Ala Ile His
1 5 10

<210> 298
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_7 CDR-H2

<400> 298

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

Gly

<210> 299
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_7 CDR-H3

<400> 299

Ala Ala Ala Tyr Tyr Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 300
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_7 HC

<400> 300

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Tyr
65 70 75 80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Tyr Tyr Tyr Asp
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 301
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_8 CDR-H1

<400> 301

Gly Phe Ser Ile Ala Tyr Tyr Asp Ile His
1 5 10

<210> 302
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_8 CDR-H2

<400> 302

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

Gly

<210> 303
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_8 CDR-H3

<400> 303

Ser Ser Tyr Ala Tyr Ala Ser Ala Met Asp Tyr
1 5 10

<210> 304
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_8 HC

<400> 304

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

```
Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Asp Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Ala Ser
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 305
<211> 10
<212> PRT
<213> Artificial

<220>

<223> YADS_9 CDR-H1

<400> 305

Gly Phe Asp Ile Tyr Asp Tyr Ala Ile His
1 5 10

<210> 306
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_9 CDR-H2

<400> 306

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

Gly

<210> 307
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_9 CDR-H3

<400> 307

Asp Ser Tyr Ala Tyr Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 308
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_9 HC

<400> 308

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Tyr Asp Tyr Ala Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ser
65 70 75 80

```
Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asp Ser Tyr Ala Tyr Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  309
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_10 CDR-H1

<400>  309

Gly Phe Asp Ile Ser Ala Ser Asp Ile His
1               5                   10


<210>  310
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_10CDR-H2
```

<400> 310

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

Gly

<210> 311
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_10 CDR-H3

<400> 311

Ser Ala Tyr Tyr Ala Ala Ser Ala Met Asp Tyr
1 5 10

<210> 312
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_10 HC

<400> 312

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Ser Ala Ser Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Pro Tyr Ala Gly Tyr
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ala Tyr Tyr Ala Ala Ser
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

```
Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 313
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_11 CDR-H1

<400> 313

```
Gly Phe Asp Ile Ala Tyr Tyr Asp Ile His
1               5                   10
```

<210> 314
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_11CDR-H2

<400> 314

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

Gly
```

<210> 315
<211> 11
<212> PRT
<213> Artificial

<220>

<223> YADS_11 CDR-H3

<400> 315

```
Ala Ala Ala Ala Tyr Ala Tyr Ala Met Asp Tyr
1               5                   10
```

<210> 316
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_11 HC

<400> 316

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                   10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Asp Ile Ala Tyr Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ser
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Ala Tyr Ala Tyr
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205
```

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 317
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_12 CDR-H1

<400> 317

Gly Phe Ala Ile Asp Tyr Tyr Asp Ile His
1 5 10

<210> 318
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_12CDR-H2

<400> 318

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

Gly

<210> 319
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_12 CDR-H3

<400> 319

Ser Ala Ala Tyr Tyr Ala Tyr Ala Met Asp Tyr
1 5 10

<210> 320
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_12 HC

<400> 320

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Asp Tyr Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ser
65                  70                  75                  80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ala Ala Tyr Tyr Ala Tyr
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 321
<211> 10

<212> PRT
<213> Artificial

<220>
<223> YADS_13 CDR-H1

<400> 321

Gly Phe Ala Ile Ala Tyr Asp Asp Ile His
1 5 10

<210> 322
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_13 CDR-H2

<400> 322

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

Gly

<210> 323
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_13 CDR-H3

<400> 323

Ala Ala Ala Tyr Ala Ala Tyr Ala Met Asp Tyr
1 5 10

<210> 324
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_13 HC

<400> 324

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Ala Tyr Asp Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

```
Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Tyr Ala Ala Tyr
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  325
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_14 CDR-H1

<400>  325

Gly Phe Ala Ile Ala Ala Tyr Asp Ile His
1               5                   10


<210>  326
<211>  17
<212>  PRT
<213>  Artificial
```

<220>
<223> YADS_14 CDR-H2

<400> 326

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

Gly

<210> 327
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_14 CDR-H3

<400> 327

Ala Ala Ala Tyr Tyr Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 328
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_14 HC

<400> 328

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Ala Ala Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Tyr Tyr Tyr Asp
115 120 125

```
Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  329
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_15 CDR-H1

<400>  329

Gly Phe Tyr Ile Ala Asp Ala Ala Ile His
1               5                   10


<210>  330
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS_15 CDR-H2

<400>  330

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

Gly


<210>  331
<211>  11
```

<212> PRT
<213> Artificial

<220>
<223> YADS_15 CDR-H3

<400> 331

Ala Tyr Asp Ser Asp Tyr Tyr Ala Met Asp Tyr
1 5 10

<210> 332
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_15 HC

<400> 332

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Tyr Ile Ala Asp Ala Ala Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Pro Ser Ala Gly Ala
65 70 75 80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Tyr Asp Ser Asp Tyr Tyr
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 333
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_16 CDR-H1

<400> 333

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His
1 5 10

<210> 334
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_16 CDR-H2

<400> 334

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

Gly

<210> 335
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_16 CDR-H3

<400> 335

Ser Ser Tyr Ala Tyr Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 336
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_16 HC

<400> 336

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Asp Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 337
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_17 CDR-H1

<400> 337

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

<210> 338
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_17 CDR-H2

<400> 338

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

Gly

<210> 339
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_17 CDR-H3

<400> 339

Ser Ser Tyr Ala Tyr Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 340
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_17 HC

<400> 340

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

```
Gly Phe Asp Ile Tyr Asp Tyr Ser Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Pro Tyr Ser Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 341
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_18 CDR-H1

<400> 341

```
Gly Phe Ala Ile Ala Ala Tyr Ala Ile His
1               5                   10
```

<210> 342
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_18 CDR-H2

<400> 342

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

Gly

<210> 343
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YADS_18 CDR-H3

<400> 343

Ser Tyr Tyr Tyr Ser Tyr Ser Ser Tyr Ala Met Asp Tyr
1 5 10

<210> 344
<211> 252
<212> PRT
<213> Artificial

<220>
<223> YADS_18 HC

<400> 344

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Ala Ala Tyr Ala Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Asp Ile Tyr Pro Ala Ala Gly Asp
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

```
Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Tyr Tyr Tyr Ser Tyr Ser
        115                 120                 125

Ser Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
    130                 135                 140

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
145                 150                 155                 160

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
                165                 170                 175

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
            180                 185                 190

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
        195                 200                 205

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
    210                 215                 220

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
225                 230                 235                 240

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 345
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_19 CDR-H2

<400> 345

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

Gly
```

<210> 346
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YADS_19 CDR-H3

<400> 346

```
Ala Tyr Asp Tyr Tyr Ala Ala Val Ala Met Asp Tyr
1               5                   10
```

<210> 347
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_20 HVL-H1

<400> 347

Gly Phe Asp Ile Ser Ala Tyr Ala Ile His
1 5 10

<210> 348
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_20 CDR-H2

<400> 348

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

Gly

<210> 349
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_20 CDR-H3

<400> 349

Ser Ala Tyr Tyr Ser Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 350
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS_20 HC

<400> 350

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

```
Gly Phe Asp Ile Ser Ala Tyr Ala Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Pro Ser Ser Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ala Tyr Tyr Ser Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 351
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_21 CDR-H2

<400> 351

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

Gly

<210> 352
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS_21 CDR-H3

<400> 352

Ala Ala Tyr Ser Tyr Tyr Ser Ala Met Asp Tyr
1 5 10

<210> 353
<211> 16
<212> PRT
<213> Artificial

<220>
<223> YADS_22 CDR-H2

<400> 353

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

<210> 354
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YADS_22 CDR-H3

<400> 354

Ala Tyr Tyr Tyr Tyr Tyr Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 355
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS_23 CDR-H1

<400> 355

Gly Phe Asp Ile Tyr Asp Asp Asp Ile His
1 5 10

<210> 356
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_23 CDR-H2

<400> 356

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

Gly

<210> 357
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YADS_23 CDR-H3

<400> 357

Ser Ser Asp Ala Ser Tyr Ser Tyr Ser Ala Met Asp Tyr
1 5 10

<210> 358
<211> 252
<212> PRT
<213> Artificial

<220>
<223> YADS_23 HC

<400> 358

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Tyr Asp Asp Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ala Pro Ser Tyr Gly Tyr
65 70 75 80

Thr Asp Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Asp Ala Ser Tyr Ser
115 120 125

Tyr Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
130 135 140

```
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
145                 150                 155                 160

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
                165                 170                 175

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
            180                 185                 190

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
        195                 200                 205

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
    210                 215                 220

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
225                 230                 235                 240

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 359
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS_24 CDR-H2

<400> 359

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

Gly
```

<210> 360
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YADS_24 CDR-H3

<400> 360

```
Asp Val Ser Tyr Ser Ser Tyr Tyr Ala Met Asp Tyr
1               5                   10
```

<210> 361
<211> 11
<212> PRT
<213> Artificial

<220>

<223> G6 CDR-L1

<400> 361

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1 5 10

<210> 362
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6 CDR-L2

<400> 362

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 363
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6 CDR-L3

<400> 363

Gln Gln Ser Tyr Thr Thr Pro Pro Thr
1 5

<210> 364
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6 LC

<400> 364

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr 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> 365
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_72 CDR-L1

<400> 365

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

<210> 366
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_72 CDR-L2

<400> 366

Ala Ala Ser Phe Leu Tyr Ser
1 5

<210> 367
<211> 9
<212> PRT
<213> Artificial

<220>

<223> G6_72 CDR-L3

<400> 367

Lys Gln Ala Phe Ser Ser Pro Pro Thr
1 5

<210> 368
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_72 LC

<400> 368

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 Asp Val Ala Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Ala Phe Ser Ser 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> 369
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_14 CDR-L1

<400> 369

Arg Ala Ser Gln Asp Val Ala Thr Ser Val Ala
1   5   10

<210> 370
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_14 CDR-L2

<400> 370

Ala Ala Ser Phe Leu Tyr Ser
1   5

<210> 371
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_14 CDR-L3

<400> 371

Glu Gln Ala Phe Thr Ser Pro Pro Thr
1   5

<210> 372
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_14 LC

<400> 372

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 Asp Val Ala Thr Ser
            20   25   30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Gln Ala Phe Thr Ser 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> 373
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_43 CDR-L1

<400> 373

```
Arg Ala Ser Gln Asp Val Ser Ser Ala Val Ala
1               5                   10
```

<210> 374
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_43 CDR-L2

<400> 374

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 375
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_43 CDR-L3

<400> 375

Gln Glu Ala Phe Thr Ser Pro Pro Thr
1 5

<210> 376
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_43 LC

<400> 376

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 Asp Val Ser Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Ala Phe Thr Ser 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> 377
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_54 CDR-L1

<400> 377

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

<210> 378
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_54 CDR-L2

<400> 378

Ala Ala Ser Tyr Leu Tyr Ser
1 5

<210> 379
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_54 CDR-L3

<400> 379

Glu Glu Ala Phe Thr Ser Pro Pro Thr
1 5

<210> 380
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_54 LC

<400> 380

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 Glu Glu Val Ala Thr Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Glu Ala Phe Thr Ser 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> 381
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_5 CDR-L1

<400> 381

Arg Ala Ser Gln Asp Val Ala Thr Ala Val Ala
1 5 10

<210> 382
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_5 CDR-L2

<400> 382

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 383
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_5 CDR-L3

<400> 383

Glu Glu Ala Tyr Thr Ser Pro Pro Thr
1 5

<210> 384
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_5 LC

<400> 384

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 Asp Val Ala Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Glu Ala Tyr Thr Ser 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> 385
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_44 CDR-L1

<400> 385

```
Arg Ala Ser Gln Asp Val Ala Ser Ser Val Ala
1               5                   10
```

<210> 386
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_44 CDR-L2

<400> 386

```
Ala Ala Ser Tyr Leu Tyr Ser
1               5
```

<210> 387
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_44 CDR-L3

<400> 387

Gln Glu Ala Phe Thr Ser Pro Pro Thr
1 5

<210> 388
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_44 LC

<400> 388

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 Asp Val Ala Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Ala Phe Thr Ser 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> 389
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_83 CDR-L1

<400> 389

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

<210> 390
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_83 CDR-L2

<400> 390

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 391
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_83 CDR-L3

<400> 391

Gln Gln Ala Tyr Ser Ser Pro Ala Thr
1 5

<210> 392
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_83 LC

<400> 392

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 Glu Val Ala Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Tyr Ser Ser Pro Ala
                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>  393
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G6_78 CDR-L1

<400>  393

Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1               5                   10


<210>  394
<211>  7
<212>  PRT
<213>  Artificial

<220>
<223>  G6_78 CDR-L2

<400>  394

Ser Ala Ser Phe Leu Tyr Ser
1               5
```

<210> 395
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_78 CDR-L3

<400> 395

Lys Gln Ala Phe Ser Ser Pro Pro Thr
1 5

<210> 396
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_78 LC

<400> 396

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 Asp Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Ala Phe Ser Ser 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> 397
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_46 CDR-L1

<400> 397

Arg Ala Ser Glu Asp Ile Ser Thr Ala Val Ala
1 5 10

<210> 398
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_46 CDR-L2

<400> 398

Ser Ala Ser Phe Leu Phe Ser
1 5

<210> 399
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_46 CDR-L3

<400> 399

Gln Gln Ala Phe Thr Thr Pro Pro Thr
1 5

<210> 400
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_46 LC

<400> 400

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 Glu Asp Ile Ser Thr Ala
20 25 30

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

Tyr Ser Ala Ser Phe Leu Phe 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 Ala Phe Thr 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> 401
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_57 CDR-L1

<400> 401

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

<210> 402
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_57 CDR-L2

<400> 402

Ala Ala Ser Tyr Leu Tyr Ser
1 5

<210> 403
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_57 CDR-L3

<400> 403

Gln Gln Ala Phe Ser Ser Pro Pro Thr
1 5

<210> 404
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_57 LC

<400> 404

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 Glu Ile Ser Thr Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Phe Ser Ser 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> 405
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_61 CDR-L1

<400> 405

```
Arg Ala Ser Gln Asp Val Ala Ser Ser Val Ala
1               5                   10
```

<210> 406
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_61 CDR-L2

<400> 406

```
Ala Ala Ser Tyr Leu Tyr Ser
1               5
```

<210> 407
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_61 CDR-L3

<400> 407

```
Glu Gln Ala Tyr Ser Ser Pro Pro Thr
1               5
```

<210> 408
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_61 LC

<400> 408

```
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 Asp Val Ala Ser Ser
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Gln Ala Tyr Ser Ser 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> 409
<211> 11

<212> PRT
<213> Artificial

<220>
<223> G6_16 CDR-L1

<400> 409

Arg Ala Ser Glu Asp Val Ser Thr Ser Val Ala
1 5 10

<210> 410
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_16 CDR-L2

<400> 410

Ala Ala Ser Tyr Leu Tyr Ser
1 5

<210> 411
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_16 CDR-L3

<400> 411

Glu Gln Ala Phe Thr Asn Pro Pro Thr
1 5

<210> 412
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_16 LC

<400> 412

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 Glu Asp Val Ser Thr Ser
20 25 30

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

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

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

```
Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Gln Ala Phe Thr Asn 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>  413
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G6_71 CDR-L1

<400>  413

Arg Ala Ser Gln Asp Val Ala Thr Ala Val Ala
1               5                   10


<210>  414
<211>  7
<212>  PRT
<213>  Artificial

<220>
<223>  G6_71 CDR-L2

<400>  414

Ser Ala Ser Phe Leu Phe Ser
1               5


<210>  415
<211>  9
```

<212> PRT
<213> Artificial

<220>
<223> G6_71 CDR-L3

<400> 415

Glu Glu Ala Tyr Thr Ser Pro Pro Thr
1 5

<210> 416
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_71 LC

<400> 416

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 Asp Val Ala Thr Ala
20 25 30

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

Tyr Ser Ala Ser Phe Leu Phe 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 Glu Glu Ala Tyr Thr Ser 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> 417
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_85 CDR-L1

<400> 417

Arg Ala Ser Glu Asp Ile Ala Ser Ser Val Ala
1 5 10

<210> 418
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_85 CDR-L2

<400> 418

Ala Ala Ser Tyr Leu Phe Ser
1 5

<210> 419
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_85 CDR-L3

<400> 419

Gln Gln Ala Phe Ser Ser Pro Pro Thr
1 5

<210> 420
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_85 LC

<400> 420

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 Glu Asp Ile Ala Ser Ser
20 25 30

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

Tyr Ala Ala Ser Tyr Leu Phe 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 Ala Phe Ser Ser 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> 421
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_58 CDR-L1

<400> 421

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

<210> 422
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_58 CDR-L2

<400> 422

Ala Ala Ser Phe Leu Tyr Ser
1 5

<210> 423
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_58 CDR-L3

<400> 423

Gln Gln Ala Phe Thr Ser Pro Ala Thr
1 5

<210> 424
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_58 LC

<400> 424

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 Glu Glu Val Ser Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Phe Thr Ser Pro Ala
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> 425
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_67 CDR-L1

<400> 425

Arg Ala Ser Gln Glu Ile Ser Ser Ser Val Ala
1 5 10

<210> 426
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_67 CDR-L2

<400> 426

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 427
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_67 CDR-L3

<400> 427

Gln Glu Ala Phe Thr Thr Pro Pro Thr
1 5

<210> 428
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_67 LC

<400> 428

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 Glu Ile Ser Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Ala Phe Thr 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> 429
<211> 11
<212> PRT
<213> Artificial

<220>

<223> G6_53 CDR-L1

<400> 429

Arg Ala Ser Glu Asp Ile Ala Ser Ser Val Ala
1 5 10

<210> 430
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_53 CDR-L2

<400> 430

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 431
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_53 CDR-L3

<400> 431

Glu Glu Ser Phe Ser Thr Pro Pro Thr
1 5

<210> 432
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_53 LC

<400> 432

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 Glu Asp Ile Ala Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Glu Ser Phe 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> 433
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_50 CDR-L1

<400> 433

Arg Ala Ser Gln Asp Ile Ser Ser Ser Val Ala
1 5 10

<210> 434
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_50 CDR-L2

<400> 434

Ala Ala Ser Phe Leu Tyr Ser
1 5

<210> 435
<211> 9
<212> PRT
<213> Artificial

<220>

<223> G6_50 CDR-L3

<400> 435

Gln Gln Ala Phe Thr Ser Pro Pro Thr
1 5

<210> 436
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_50 LC

<400> 436

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 Asp Ile Ser Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Phe Thr Ser 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> 437
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_56 CDR-L1

<400> 437

Arg Ala Ser Glu Asp Val Ser Thr Ser Val Ala
1 5 10

<210> 438
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_56 CDR-L2

<400> 438

Ala Ala Ser Tyr Leu Tyr Ser
1 5

<210> 439
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_56 CDR-L3

<400> 439

Glu Glu Ala Phe Thr Thr Pro Pro Thr
1 5

<210> 440
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_56 LC

<400> 440

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 Glu Asp Val Ser Thr Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Glu Ala Phe Thr 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> 441
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_32 CDR-L1

<400> 441

```
Arg Ala Ser Gln Asp Ile Ser Ser Ser Val Ala
1               5                   10
```

<210> 442
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_32 CDR-L2

<400> 442

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 443
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_32 CDR-L3

<400> 443

Lys Gln Ser Tyr Ser Ser Pro Pro Thr
1 5

<210> 444
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_32 LC

<400> 444

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 Asp Ile Ser Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Lys Gln Ser Tyr Ser Ser 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> 445
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_15 CDR-L1

<400> 445

Arg Ala Ser Glu Asp Ile Ser Ser Ala Val Ala
1 5 10

<210> 446
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_15 CDR-L2

<400> 446

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 447
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_15 CDR-L3

<400> 447

Glu Glu Ala Tyr Thr Ser Pro Pro Thr
1 5

<210> 448
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_15 LC

<400> 448

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 Glu Asp Ile Ser Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Glu Ala Tyr Thr Ser 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> 449
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_62 CDR-L1

<400> 449

Arg Ala Ser Glu Glu Ile Ser Ser Ser Val Ala
1 5 10

<210> 450
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_62 CDR-L2

<400> 450

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 451
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_62 CDR-L3

<400> 451

Glu Glu Ser Phe Thr Thr Pro Pro Thr
1 5

<210> 452
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_62 LC

<400> 452

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 Glu Glu Ile Ser Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Glu Glu Ser Phe Thr 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> 453
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_64 CDR-L1

<400> 453

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

<210> 454
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_64 CDR-L2

<400> 454

```
Ser Ala Ser Phe Leu Tyr Ser
1               5
```

<210> 455
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_64 CDR-L3

<400> 455

Gln Gln Ala Phe Ser Ser Pro Ala Thr
1 5

<210> 456
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_64 LC

<400> 456

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 Glu Val Ala Thr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Phe Ser Ser Pro Ala
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> 457
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_4 CDR-L1

<400> 457

Arg Ala Ser Glu Asp Val Ala Ser Ala Val Ala
1 5 10

<210> 458
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_4 CDR-L2

<400> 458

Ala Ala Ser Tyr Leu Tyr Ser
1 5

<210> 459
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_4 CDR-L3

<400> 459

Gln Glu Ser Tyr Ser Ser Pro Pro Thr
1 5

<210> 460
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_4 LC

<400> 460

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 Glu Asp Val Ala Ser Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Ser Tyr Ser Ser 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>  461
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G6_25 CDR-L1

<400>  461

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


<210>  462
<211>  7
<212>  PRT
<213>  Artificial

<220>
<223>  G6_25 CDR-L2

<400>  462

Ala Ala Ser Tyr Leu Tyr Ser
1               5
```

<210> 463
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_25 CDR-L3

<400> 463

Gln Glu Ala Phe Ser Ser Pro Ala Thr
1 5

<210> 464
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_25 LC

<400> 464

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 Asp Val Ser Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Ala Phe Ser Ser Pro Ala
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> 465
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_86 CDR-L1

<400> 465

Arg Ala Ser Gln Asp Ile Ala Thr Ser Val Ala
1 5 10

<210> 466
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_86 CDR-L2

<400> 466

Ala Ala Ser Phe Leu Phe Ser
1 5

<210> 467
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_86 CDR-L3

<400> 467

Gln Gln Ser Tyr Thr Asn Pro Pro Thr
1 5

<210> 468
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_86 LC

<400> 468

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 Asp Ile Ala Thr Ser
            20                  25                  30

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

Tyr Ala Ala Ser Phe Leu Phe 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 Thr Asn 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>  469
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  G6_74 CDR-L1

<400>  469

Arg Ala Ser Glu Glu Val Ala Ser Ser Val Ala
1               5                   10
```

<210> 470
<211> 7
<212> PRT
<213> Artificial

<220>
<223> G6_74 CDR-L2

<400> 470

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 471
<211> 9
<212> PRT
<213> Artificial

<220>
<223> G6_74 CDR-L3

<400> 471

Gln Lys Ala Tyr Ser Thr Pro Pro Thr
1 5

<210> 472
<211> 214
<212> PRT
<213> Artificial

<220>
<223> G6_74 LC

<400> 472

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 Glu Glu Val Ala Ser Ser
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Lys Ala 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> 473
<211> 10
<212> PRT
<213> Artificial

<220>
<223> G6 CDR-H1

<400> 473

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

<210> 474
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G6 CDR-H2

<400> 474

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

Gly

<210> 475
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6 CDR-H3

<400> 475

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 476
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G6 HC

<400> 476

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 Ile Ser Asp Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 477
<211> 10
<212> PRT
<213> Artificial

<220>
<223> G6_87 CDR-H1

<400> 477

Gly Phe Thr Ile Ser Asp Phe Trp Ile His
1 5 10

<210> 478
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G6_87 CDR-H2

<400> 478

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

Gly

<210> 479
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_87 CDR-H3

<400> 479

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 480
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G6_87 HC

<400> 480

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 Ile Ser Asp Phe
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
    210                 215                 220

Lys Thr His
225


<210>  481
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  G6_88 CDR-H1

<400>  481

Gly Phe Thr Ile Ala Glu Tyr Trp Ile His
1               5                   10
```

<210> 482
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G6_88 CDR-H2

<400> 482

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

Gly

<210> 483
<211> 11
<212> PRT
<213> Artificial

<220>
<223> G6_88 CDR-H3

<400> 483

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 484
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G6_88 HC

<400> 484

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 Ile Ala Glu Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 485
<211> 10
<212> PRT
<213> Artificial

<220>
<223> G6_89 CDR-H1

<400> 485

Gly Phe Thr Ile Ser Asp Phe Trp Ile His
1 5 10

<210> 486
<211> 17
<212> PRT
<213> Artificial

<220>
<223> G6_89 CDR-H2

<400> 486

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

Gly

<210> 487
<211> 11

<212> PRT
<213> Artificial

<220>
<223> G6_89 CDR-H3

<400> 487

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 488
<211> 227
<212> PRT
<213> Artificial

<220>
<223> G6_89 HC

<400> 488

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 Ile Ser Asp Phe
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Phe Val Phe Phe Leu Pro Tyr Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 489
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS1 CDR-L1

<400> 489

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

<210> 490
<211> 7
<212> PRT
<213> Artificial

<220>
<223> YADS1 CDR-L2

<400> 490

Ala Ala Ser Tyr Leu Tyr Ser
1 5

<210> 491
<211> 8
<212> PRT
<213> Artificial

<220>
<223> YADS1 CDR-L3

<400> 491

Gln Ser Ser Ala Ser Pro Ala Thr
1 5

<210> 492
<211> 213
<212> PRT
<213> Artificial

<220>
<223> YADS1 LC

<400> 492

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 Ala Ser Tyr Ser Ser
20 25 30

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

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

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

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

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

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

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

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

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

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

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

Asn Arg Gly Glu Cys
210

<210> 493
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS2 CDR-L1

<400> 493

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

<210> 494
<211> 7
<212> PRT
<213> Artificial

<220>
<223> YADS2 CDR-L2

<400> 494

Asp Ala Ser Tyr Leu Tyr Ser
1 5

<210> 495
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YADS2 CDR-L3

<400> 495

Gln Gln Ala Tyr Ser Ser Pro Asp Thr
1 5

<210> 496
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YADS2 LC

<400> 496

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 Tyr Ala Tyr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Tyr Ser Ser Pro Asp
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> 497
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS3 CDR-L1

<400> 497

```
Arg Ala Ser Gln Ala Ser Tyr Tyr Asp Val Ala
1               5                   10
```

<210> 498
<211> 7
<212> PRT
<213> Artificial

<220>
<223> YADS3 CDR-L2

<400> 498

```
Ala Ala Ser Tyr Leu Tyr Ser
1               5
```

<210> 499
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YADS3 CDR-L3

<400> 499

```
Gln Gln Tyr Tyr Tyr Ala Pro Ala Thr
1               5
```

<210> 500
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YADS3 LC

<400> 500

```
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 Ala Ser Tyr Tyr Asp
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Tyr Ala Pro Ala
                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> 501
<211> 10

<212> PRT
<213> Artificial

<220>
<223> YADS1 CDR -H1

<400> 501

Gly Phe Asp Ile Tyr Asp Asp Asp Ile His
1 5 10

<210> 502
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS1 CDR-H2

<400> 502

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

Gly

<210> 503
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YADS1 CDR-H3

<400> 503

Ser Ser Asp Ala Ser Tyr Ser Tyr Ser Ala Met Asp Tyr
1 5 10

<210> 504
<211> 252
<212> PRT
<213> Artificial

<220>
<223> YADS1 HC

<400> 504

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Tyr Asp Asp Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ala Pro Ser Tyr Gly Tyr
65 70 75 80

Thr Asp Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Asp Ala Ser Tyr Ser
115 120 125

Tyr Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
130 135 140

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
145 150 155 160

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
165 170 175

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
180 185 190

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
195 200 205

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
210 215 220

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
225 230 235 240

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 505
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS2 CDR -H1

<400> 505

Gly Phe Ala Ile Ser Asp Tyr Asp Ile His
1 5 10

<210> 506
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS2 CDR-H2

<400> 506

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

Gly

<210> 507
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS2 CDR-H3

<400> 507

Ser Ser Tyr Ala Tyr Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 508
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 HC

<400> 508

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Asp Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ala
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 509
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS3 CDR -H1

<400> 509

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

<210> 510
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS3 CDR-H2

<400> 510

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

Gly

<210> 511
<211> 11

<212> PRT
<213> Artificial

<220>
<223> YADS3 CDR-H3

<400> 511

Ser Ser Tyr Ala Tyr Tyr Ser Ala Met Asp Tyr
1 5 10

<210> 512
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS3 HC

<400> 512

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Ala Pro Tyr Ser Gly Ser
65 70 75 80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Ser
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 513
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS4 CDR-H1

<400> 513

Gly Phe Asp Ile Tyr Asp Tyr Ala Ile His
1 5 10

<210> 514
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS4 CDR-H2

<400> 514

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

Gly

<210> 515
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS4 CDR-H3

<400> 515

Asp Ser Tyr Ala Tyr Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 516
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS4 HC

<400> 516

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Asp Ile Tyr Asp Tyr Ala Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ser
65                  70                  75                  80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asp Ser Tyr Ala Tyr Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 517
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS5 CDR -H1

<400> 517

Gly Phe Ser Ile Ala Tyr Tyr Asp Ile His
1 5 10

<210> 518
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS5 CDR-H2

<400> 518

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

Gly

<210> 519
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS5 CDR-H3

<400> 519

Ser Ser Tyr Ala Tyr Ala Ser Ala Met Asp Tyr
1 5 10

<210> 520
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS5 HC

<400> 520

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

```
Gly Phe Ser Ile Ala Tyr Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Asp Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Ala Ser
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 521
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS6 CDR -H1

<400> 521

```
Gly Phe Ala Ile Ala Tyr Asp Asp Ile His
1               5                   10
```

<210> 522
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS6 CDR-H2

<400> 522

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

Gly

<210> 523
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS6 CDR-H3

<400> 523

Ala Ala Ala Tyr Ala Ala Tyr Ala Met Asp Tyr
1 5 10

<210> 524
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS6 HC

<400> 524

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Ala Tyr Asp Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

```
Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Tyr Ala Ala Tyr
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  525
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS7 CDR -H1

<400>  525

Gly Phe Ala Ile Asp Tyr Tyr Asp Ile His
1               5                   10


<210>  526
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS7 CDR-H2

<400>  526

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

Gly
```

<210> 527
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS7 CDR-H3

<400> 527

Ser Ala Ala Tyr Tyr Ala Tyr Ala Met Asp Tyr
1 5 10

<210> 528
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS7 HC

<400> 528

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Asp Tyr Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ser
65 70 75 80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ala Ala Tyr Tyr Ala Tyr
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

```
Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  529
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS8 CDR -H1

<400>  529

Gly Phe Ala Ile Ala Ala Tyr Asp Ile His
1               5                   10


<210>  530
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS8 CDR-H2

<400>  530

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

Gly


<210>  531
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  YADS8 CDR-H3

<400>  531

Ala Ala Ala Tyr Tyr Tyr Asp Ala Met Asp Tyr
1               5                   10
```

<210> 532
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS8 HC

<400> 532

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Ala Ala Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Tyr Tyr Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240
```

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 533
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS9 CDR -H1

<400> 533

Gly Phe Asp Ile Ser Ala Tyr Ala Ile His
1 5 10

<210> 534
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS9 CDR-H2

<400> 534

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

Gly

<210> 535
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS9 CDR-H3

<400> 535

Ser Ala Tyr Tyr Ser Tyr Ala Ala Met Asp Tyr
1 5 10

<210> 536
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS9 HC

<400> 536

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

```
Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

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

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Pro Ser Ser Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ala Tyr Tyr Ser Tyr Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 537
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS10 CDR -H1

<400> 537

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

<210> 538
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS10 CDR-H2

<400> 538

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

Gly

<210> 539
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS10 CDR-H3

<400> 539

Ser Ser Tyr Ala Tyr Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 540
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS10 HC

<400> 540

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Pro Tyr Ser Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

```
Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Tyr Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  541
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS11 CDR -H1

<400>  541

Gly Phe Asp Ile Ser Ala Ser Asp Ile His
1               5                   10


<210>  542
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS11 CDR-H2

<400>  542

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

Gly

<210> 543
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS11 CDR-H3

<400> 543

Ser Ala Tyr Tyr Ala Ala Ser Ala Met Asp Tyr
1 5 10

<210> 544
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS11 HC

<400> 544

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Ser Ala Ser Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Pro Tyr Ala Gly Tyr
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ala Tyr Tyr Ala Ala Ser
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 545
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS12 CDR -H1

<400> 545

Gly Phe Asp Ile Ala Tyr Tyr Asp Ile His
1 5 10

<210> 546
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS12 CDR-H2

<400> 546

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

Gly

<210> 547
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS12 CDR-H3

<400> 547

Ala Ala Ala Ala Tyr Ala Tyr Ala Met Asp Tyr
1 5 10

<210> 548
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS12 HC

<400> 548

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Asp Ile Ala Tyr Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ser
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Ala Tyr Ala Tyr
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 549
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YADS13 CDR -H1

<400> 549

Gly Phe Ser Ile Asp Tyr Tyr Ala Ile His
1 5 10

<210> 550
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS13 CDR-H2

<400> 550

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

Gly

<210> 551
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS13 CDR-H3

<400> 551

Ala Ala Ala Tyr Tyr Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 552
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS13 HC

<400> 552

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

```
Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Tyr
65                  70                  75                  80

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Ala Tyr Tyr Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250

<210>  553
<211>  10
<212>  PRT
<213>  Artificial

<220>
```

<223> YADS14 CDR -H1

<400> 553

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

<210> 554
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YADS14 CDR-H2

<400> 554

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

Gly

<210> 555
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YADS14 CDR-H3

<400> 555

Ala Ala Asp Tyr Ala Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 556
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS14 HC

<400> 556

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

```
Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ala Asp Tyr Ala Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

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

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  557
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YADS15 CDR -H1

<400>  557

Gly Phe Ala Ile Ala Ala Tyr Ala Ile His
1               5                   10


<210>  558
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YADS15 CDR-H2
```

<400> 558

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

Gly

<210> 559
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YADS15 CDR-H3

<400> 559

Ser Tyr Tyr Tyr Ser Tyr Ser Ser Tyr Ala Met Asp Tyr
1 5 10

<210> 560
<211> 252
<212> PRT
<213> Artificial

<220>
<223> YADS15 HC

<400> 560

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Ala Ala Tyr Ala Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Asp Ile Tyr Pro Ala Ala Gly Asp
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Tyr Tyr Tyr Ser Tyr Ser
115 120 125

Ser Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
130 135 140

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
145 150 155 160

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
165 170 175

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
180 185 190

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
195 200 205

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
210 215 220

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
225 230 235 240

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 561
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS1 Light chain CDR3

<400> 561

Gln Gln Ser Tyr Tyr Ser Pro Tyr Thr
1 5

<210> 562
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS1 Heavy Chain CDR1

<400> 562

Gly Phe Ser Ile Ser Ser Ser Ser Ile
1 5

<210> 563
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS1 Heavy chain CDR2

<400> 563

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

Gly

<210> 564
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS1 Heavy chain CDR3

<400> 564

Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 565
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS2 Fab light chain

<400> 565

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 Tyr Ala Tyr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Tyr Ser Pro Tyr
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> 566
<211> 8
<212> PRT
<213> Artificial

<220>
<223> YS2 Heavy chain CDR1

<400> 566

Gly Phe Ser Tyr Tyr Ser Ser Ile
1 5

<210> 567
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS2 Heavy Chain CDR3

<400> 567

Tyr Tyr Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 568
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS2 Fab heavy chain

<400> 568

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 Ser Tyr Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 569
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS3 CDR3 light chain

<400> 569

Gln Gln Ser Tyr Tyr Ser Pro Tyr Thr
1 5

<210> 570
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS3 Fab light chain

<400> 570

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 Tyr Ala Tyr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Tyr Ser Pro Tyr
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> 571
<211> 9
<212> PRT
<213> Artificial

<220>

<223> YS3 CDR1 heavy chain

<400> 571

Gly Phe Ser Ser Tyr Ser Ser Ser Ile
1 5

<210> 572
<211> 16
<212> PRT
<213> Artificial

<220>
<223> YS3 CDR2 heavy chain

<400> 572

Tyr Tyr Ser Ser Ser Tyr Ser Ser Ser Ser Ser Ala Asp Ser Val Lys
1 5 10 15

<210> 573
<211> 15
<212> PRT
<213> Artificial

<220>
<223> CDR-H3

<400> 573

Tyr Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Ser Ser Tyr Tyr Tyr
1 5 10 15

<210> 574
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS3 Fab heavy chain

<400> 574

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 Ser Ser Tyr Ser Ser
20 25 30

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

Ala Tyr Tyr Ser Ser Ser Tyr Ser Ser Ser Ser Ala Asp Ser Val Lys
50 55 60

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

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

```
Arg Tyr Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Ser Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 575
<211> 15
<212> PRT
<213> Artificial

<220>
<223> YS4 CDR3 heavy chain

<400> 575

```
Tyr Tyr Tyr Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1               5                   10                  15
```

<210> 576
<211> 235
<212> PRT
<213> Artificial

<220>
<223> YS4 Fab heavy chain

<400> 576

```
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 Ser Ser Ser Ser Ser
            20                  25                  30
```

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

Ala Tyr Tyr Ser Ser Tyr Ser Ser Ser Ser Ser Ser Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Tyr Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr
            100                 105                 110

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

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

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

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

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
            180                 185                 190

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
        195                 200                 205

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
    210                 215                 220

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235


<210>  577
<211>  9
<212>  PRT
<213>  Artificial

<220>
<223>  YS5 CDR3 light chain

<400>  577

Gln Gln Ser Ser Tyr Tyr Pro Ser Thr
1               5
```

<210> 578
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS5 Fab light chain

<400> 578

```
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 Tyr Ala Tyr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Tyr Tyr Pro Ser
                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> 579
<211> 15

<212> PRT
<213> Artificial

<220>
<223> YS5 CDR3 heavy chain

<400> 579

Tyr Ser Ser Tyr Ser Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10 15

<210> 580
<211> 235
<212> PRT
<213> Artificial

<220>
<223> YS5 Fab heavy chain

<400> 580

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 Ser Ser Ser Ser Ser
20 25 30

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

Ala Tyr Tyr Ser Ser Ser Tyr Ser Ser Ser Ser Ser Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr
100 105 110

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

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

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

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

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
180 185 190

```
Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
        195                 200                 205


Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
    210                 215                 220


Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235


<210>  581
<211>  15
<212>  PRT
<213>  Artificial

<220>
<223>  YS6 CDR3 heavy chain

<400>  581

Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
1               5                   10                  15


<210>  582
<211>  235
<212>  PRT
<213>  Artificial

<220>
<223>  YS6 Fab heavy chain

<400>  582

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 Ser Ile Ser Tyr Ser
            20                  25                  30


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


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


Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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


Ser Arg Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Ser Tyr Ser Tyr Tyr
            100                 105                 110


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

```
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
    130                 135                 140

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

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

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
            180                 185                 190

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
        195                 200                 205

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
    210                 215                 220

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235


<210>  583
<211>  9
<212>  PRT
<213>  Artificial

<220>
<223>  YS6 CDR3 light chain

<400>  583

Gln Gln Ser Tyr Tyr Ser Pro Tyr Thr
1               5


<210>  584
<211>  214
<212>  PRT
<213>  Artificial

<220>
<223>  YS6 Fab light chain

<400>  584

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 Tyr Ala Tyr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Tyr Ser Pro Tyr
                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>  585
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS7 CDR2 heavy chain

<400>  585

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

Gly



<210>  586
<211>  9
<212>  PRT
<213>  Artificial

<220>
<223>  YS7 CDR3 light chain
```

<400> 586

Gln Gln Ser Ser Tyr Ser Pro Tyr Thr
1 5

<210> 587
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS7 Fab light chain

<400> 587

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 Tyr Ala Tyr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Tyr Ser Pro Tyr
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> 588
<211> 15
<212> PRT
<213> Artificial

<220>
<223> YS7 CDR3 heavy chain

<400> 588

Tyr Ser Tyr Ser Tyr Ser Ser Ser Ser Ser Ser Ser Tyr Tyr Tyr
1 5 10 15

<210> 589
<211> 235
<212> PRT
<213> Artificial

<220>
<223> YS7 Fab heavy chain

<400> 589

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Tyr Ser Ser Ser Ser Ser Ser Ser Tyr Tyr
100 105 110

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

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

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

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

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
180 185 190

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
195 200 205

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
210 215 220

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230 235

<210> 590
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS8 CDR2 heavy chain

<400> 590

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

Gly

<210> 591
<211> 15
<212> PRT
<213> Artificial

<220>
<223> YS8 CDR3 heavy chain

<400> 591

Tyr Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10 15

<210> 592
<211> 235
<212> PRT
<213> Artificial

<220>
<223> YS8 Fab heavy chain

<400> 592

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr
            100                 105                 110

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

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

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

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

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
            180                 185                 190

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
        195                 200                 205

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
    210                 215                 220

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235


<210>  593
<211>  14
<212>  PRT
<213>  Artificial

<220>
<223>  YS9  CDR3 heavy chain

<400>  593

Tyr Tyr Ser Ser Tyr Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr
1               5                   10
```

<210> 594
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS9 Fab heavy chain

<400> 594

```
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 Ser Ile Ser Tyr Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Tyr Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 595
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS10 CDR-H3

<400> 595

Gln Gln Ser Tyr Ser Ser Pro Tyr Ile
1 5

<210> 596
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS10 CDR3 heavy chain

<400> 596

Tyr Ser Ser Tyr Ser Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 597
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS10 Fab heavy chain

<400> 597

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 598
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS10 Fab light chain

<400> 598

```
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 Tyr Ala Tyr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Ser Pro Tyr
                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> 599
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS11 CDR3 heavy chain

<400> 599

```
Tyr Ser Ser Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1               5                   10
```

<210> 600
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS11 Fab heavy chain

<400> 600

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

```
Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  601
<211>  9
<212>  PRT
<213>  Artificial

<220>
<223>  YS12 CDR1 heavy chain

<400>  601

Gly Phe Tyr Ile Ser Ser Ser Ser Ile
1               5


<210>  602
<211>  14
<212>  PRT
<213>  Artificial

<220>
<223>  YS12 CDR3 heavy chain
```

<400> 602

Tyr Ser Ser Ser Ser Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr
1 5 10

<210> 603
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS12 Fab heavy chain

<400> 603

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 Tyr Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 604
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS13 CDR3 heavy chain

<400> 604

Tyr Ser Tyr Ser Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 605
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS13 Fab heavy chain

<400> 605

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr
100 105 110

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

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

```
Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 606
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS14 CDR3 heavy chain

<400> 606

```
Tyr Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
1               5                   10
```

<210> 607
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS14 Fab heavy chain

<400> 607

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  608
<211>  9
<212>  PRT
<213>  Artificial

<220>
<223>  YS15 CDR3 light chain

<400>  608

Gln Gln Ser Tyr Ser Tyr Pro Ser Thr
1               5


<210>  609
<211>  214
<212>  PRT
<213>  Artificial

<220>
<223>  YS15 Fab light chain

<400>  609

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 Tyr Ala Tyr Ala
20 25 30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Tyr Pro Ser
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> 610
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS15 CDR2 heavy chain

<400> 610

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

Gly

<210> 611
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS15 CDR3 heavy chain

<400> 611

Tyr Ser Ser Tyr Ser Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 612
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS15 Fab heavy chain

<400> 612

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 613
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS16 CDR3 heavy chain

<400> 613

Tyr Ser Tyr Tyr Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 614
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS16 Fab heavy chain

<400> 614

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Tyr Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 615
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS17 CDR3 light chain

<400> 615

```
Gln Gln Ser Tyr Tyr Tyr Pro Ser Thr
1               5
```

<210> 616
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS17 Fab light chain

<400> 616

```
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 Tyr Ala Tyr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Tyr Tyr Pro Ser
                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> 617
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS17 CDR2 heavy chain

<400> 617

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

Gly
```

<210> 618
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS17 CDR3 heavy chain

<400> 618

Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 619
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS17 Fab heavy chain

<400> 619

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 620
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS18 CDR1 heavy chain

<400> 620

Gly Phe Ser Ile Tyr Ser Ser Ser Ile
1 5

<210> 621
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS18 CDR3 heavy chain

<400> 621

Tyr Ser Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 622
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS18 Fab heavy chain

<400> 622

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  623
<211>  14
<212>  PRT
<213>  Artificial

<220>
<223>  YS19 CDR3 heavy chain

<400>  623

Tyr Ser Ser Ser Tyr Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1               5                   10


<210>  624
<211>  234
<212>  PRT
<213>  Artificial

<220>
<223>  YS19 Fab heavy chain

<400>  624

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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Tyr Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 625
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS20 CDR3 heavy chain

<400> 625

Tyr Ser Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 626
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS20 Fab heavy chain

<400> 626

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 627
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS21 CDR2 heavy chain

<400> 627

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

Gly

<210> 628
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS21 CDR3 heavy chain

<400> 628

Tyr Ser Tyr Tyr Ser Tyr Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 629
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS21 Fab heavy chain

<400> 629

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 Tyr Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Tyr Ser Tyr Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 630
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS22 CDR3 light chain

<400> 630

```
Gln Gln Ser Ser Ser Ser Pro Tyr Thr
1               5
```

<210> 631
<211> 214
<212> PRT
<213> Artificial

<220>
<223> YS22 Fab light chain

<400> 631

```
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 Tyr Ala Tyr Ala
            20                  25                  30

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Ser Ser Pro Tyr
                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>  632
<211>  14
<212>  PRT
<213>  Artificial

<220>
<223>  YS22 CDR3 heavy chain

<400>  632

Tyr Tyr Ser Ser Ser Tyr Ser Tyr Ser Ser Ser Tyr Tyr Tyr
1               5                   10


<210>  633
<211>  234
```

<212> PRT
<213> Artificial

<220>
<223> YS22 Fab heavy chain

<400> 633

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Ser Tyr Ser Ser Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 634
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS23 CDR3 heavy chain

<400> 634

Tyr Tyr Tyr Ser Tyr Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 635
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS23 Fab heavy chain

<400> 635

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Tyr Ser Tyr Tyr Ser Ser Ser Tyr Ser Tyr Tyr Tyr
100 105 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 636
<211> 14
<212> PRT
<213> Artificial

<220>
<223> YS24 CDR3 heavy chain

<400> 636

Tyr Tyr Ser Tyr Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Tyr
1 5 10

<210> 637
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS24 Fab heavy chain

<400> 637

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Tyr Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Tyr
100 105 110

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


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


Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205


Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220


Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  638
<211>  14
<212>  PRT
<213>  Artificial

<220>
<223>  YS25 CDR3 heavy chain

<400>  638

Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1               5                   10


<210>  639
<211>  234
<212>  PRT
<213>  Artificial

<220>
<223>  YS25 Fab heavy chain

<400>  639

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 Ser Ile Tyr Tyr Ser
            20                  25                  30


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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Tyr
            100                 105                 110

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

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

Thr Ser Gly Gly 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 Gln Thr Tyr
        195                 200                 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
    210                 215                 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  640
<211>  13
<212>  PRT
<213>  Artificial

<220>
<223>  YS26 CDR3 heavy chain

<400>  640

Tyr Ser Tyr Ser Ser Ser Ser Ser Tyr Ser Tyr Tyr Tyr
1               5                   10


<210>  641
<211>  233
<212>  PRT
<213>  Artificial

<220>
```

<223> YS26 Fab heavy chain

<400> 641

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Ser Ser Ser Ser Tyr Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 642
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS27 CDR2 heavy chain

<400> 642

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

Gly

<210> 643
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS27 CDR3 heavy chain

<400> 643

Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 644
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS27 Fab heavy chain

<400> 644

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 Ser Ile Tyr Tyr Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 645
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS28 CDR2 heavy chain

<400> 645

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

Gly

<210> 646
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS28 CDR3 heavy chain

<400> 646

Tyr Tyr Ser Ser Ser Tyr Ser Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 647
<211> 233
<212> PRT
<213> Artificial

<220>

<223> YS28 Fab heavy chain

<400> 647

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Ser Tyr Tyr Ser Tyr Tyr Tyr Ala
            100                 105                 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 648
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS29 CDR3 heavy chain

<400> 648

Tyr Ser Ser Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 649
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS29 Fab heavy chain

<400> 649

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 650
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS30 CDR3 heavy chain

<400> 650

Tyr Ser Ser Ser Tyr Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 651
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS30 Fab heavy chain

<400> 651

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Tyr Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 652
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS31 CDR3 heavy chain

<400> 652

Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 653
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS31 Fab heavy chain

<400> 653

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

```
Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Ser Tyr Tyr Tyr Ala
            100                 105                 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  654
<211>  13
<212>  PRT
<213>  Artificial

<220>
<223>  YS32 CDR3 heavy chain

<400>  654

Tyr Tyr Ser Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
1               5                   10


<210>  655
<211>  233
<212>  PRT
<213>  Artificial

<220>
<223>  YS32 Fab heavy chain

<400>  655
```

```
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 Ser Ile Tyr Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala
            100                 105                 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 656
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS33 CDR3 heavy chain

<400> 656

Tyr Ser Ser Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 657
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS33 Fab heavy chain

<400> 657

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 Tyr Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 658
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS34 CDR3 heavy chain

<400> 658

Tyr Ser Ser Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Tyr
1 5 10

<210> 659
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS34 Fab heavy chain

<400> 659

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230

<210>  660
<211>  13
<212>  PRT
<213>  Artificial

<220>
<223>  YS35 CDR3 heavy chain

<400>  660

Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Ser Tyr Tyr Tyr
1               5                   10

<210>  661
<211>  233
<212>  PRT
<213>  Artificial

<220>
<223>  YS35 Fab heavy chain

<400>  661

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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Ser Tyr Tyr Tyr Ala
            100                 105                 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  662
<211>  9
<212>  PRT
<213>  Artificial

<220>
<223>  YS36 CDR1 heavy chain

<400>  662

Gly Phe Ser Ile Tyr Ser Ser Ser Ile
1               5


<210>  663
<211>  13
<212>  PRT
<213>  Artificial

<220>
<223>  YS36 CDR3 heavy chain

<400>  663

Tyr Ser Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1               5                   10
```

<210> 664
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS36 Fab heavy chain

<400> 664

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 665
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS37 CDR3 heavy chain

<400> 665

Tyr Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 666
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS37 Fab heavy chain

<400> 666

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr Ala
100 105 110

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

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

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

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

```
His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 667
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS38 CDR3 heavy chain

<400> 667

```
Tyr Ser Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr
1               5                   10
```

<210> 668
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS38 Fab heavy chain

<400> 668

```
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 Ser Ile Tyr Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Ser Tyr Ser Ser Tyr Ser Ser Tyr Tyr Ala
            100                 105                 110
```

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

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

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

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

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 669
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS39 CDR3 heavy chain

<400> 669

```
Tyr Tyr Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr
1               5                   10
```

<210> 670
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS39 Fab heavy chain

<400> 670

```
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 Ser Ile Tyr Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr Ala Met
            100                 105                 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

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

Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  671
<211>  12
<212>  PRT
<213>  Artificial

<220>
<223>  YS40 CDR3 heavy chain

<400>  671

Tyr Tyr Tyr Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1               5                   10


<210>  672
<211>  232
<212>  PRT
<213>  Artificial
```

<220>
<223> YS40 Fab heavy chain

<400> 672

```
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 Ser Ile Tyr Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Tyr Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ala Met
            100                 105                 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

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

Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 673
<211> 12

<212> PRT
<213> Artificial

<220>
<223> YS41 CDR3 heavy chain

<400> 673

Tyr Ser Tyr Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 674
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS41 Fab heavy chain

<400> 674

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 675
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS42 CDR3 heavy chain

<400> 675

Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr
1 5 10

<210> 676
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS42 Fab heavy chain

<400> 676

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 Ser Ile Ser Tyr Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 677
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS43 CDR3 heavy chain

<400> 677

Tyr Ser Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 678
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS43 Fab heavy chain

<400> 678

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 Ser Ile Ser Ser Ser
20 25 30

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

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

```
Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr Ala Met
            100                 105                 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

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

Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 679
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS44 CDR3 heavy chain

<400> 679

```
Tyr Ser Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr
1               5                   10
```

<210> 680
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS44 Fab heavy chain

<400> 680

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 681
<211> 12
<212> PRT
<213> Artificial

<220>

<223> YS45 CDR3 heavy chain

<400> 681

Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 682
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS45 Fab heavy chain

<400> 682

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 683
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS47 CDR3 heavy chain

<400> 683

Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 684
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS47 Fab heavy chain

<400> 684

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

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

Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 685
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS47 CDR3 heavy chain

<400> 685

```
Tyr Ser Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr
1               5                   10
```

<210> 686
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS47 Fab heavy chain

<400> 686

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 687
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS48 CDR3 heavy chain

<400> 687

Tyr Ser Tyr Ser Ser Ser Ser Ser Ser Tyr Tyr Tyr
1 5 10

<210> 688
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS48 Fab heavy chain

<400> 688

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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Tyr Ser Ser Ser Ser Ser Ser Tyr Tyr Tyr Ala Met
            100                 105                 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

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

Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 689
<211> 12
<212> PRT
<213> Artificial

<220>
<223> YS49 CDR3 heavy chain

<400> 689

Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Ser Tyr Ser Tyr
1 5 10

<210> 690
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS49 Fab heavy chain

<400> 690

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 Ser Ile Tyr Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Ser Tyr Ser Tyr Ala Met
100 105 110

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

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

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

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

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

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

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

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 691
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS50 CDR3 heavy chain

<400> 691

Tyr Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr
1 5 10

<210> 692
<211> 231
<212> PRT
<213> Artificial

<220>
<223> YS50 Fab heavy chain

<400> 692

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
115 120 125

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

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

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

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
            180                 185                 190

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

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

Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 693
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS51 CDR3 heavy chain

<400> 693

```
Tyr Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr
1               5                   10
```

<210> 694
<211> 231
<212> PRT
<213> Artificial

<220>
<223> YS51 Fab heavy chain

<400> 694

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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
```

Ser Arg Tyr Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
115 120 125

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

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

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

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
180 185 190

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

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

Lys Ser Cys Asp Lys Thr His
225 230

<210> 695
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS52 CDR1 heavy chain

<400> 695

Gly Phe Ser Ile Ser Ser Ser Tyr Ile
1 5

<210> 696
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS52 CDR2 heavy chain

<400> 696

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

Gly

<210> 697
<211> 8
<212> PRT
<213> Artificial

<220>
<223> YS52 CDR3 heavy chain

<400> 697

Ser Ser Ser Ser Ser Tyr Tyr Ser
1 5

<210> 698
<211> 228
<212> PRT
<213> Artificial

<220>
<223> YS52 Fab heavy chain

<400> 698

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 Ser Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Ser Ser Ser Tyr Tyr Ser Ala Met Asp Tyr Trp Gly
100 105 110

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

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

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

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

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

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

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

Asp Lys Thr His
225

<210> 699
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS53 CDRH2

<400> 699

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

Gly

<210> 700
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS53 CDRH3

<400> 700

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser
1 5 10

<210> 701
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS53 Fab heavy chain

<400> 701

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 Tyr Ile Ser Ser Ser
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
100 105 110

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

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

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

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 702
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS54 CDRH2

<400> 702

Ser Ile Ser Pro Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 703
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS54 Fab heavy chain

<400> 703

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220
```

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 704
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS55 CDRH3

<400> 704

Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser
1 5 10

<210> 705
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS55 Fab heavy chain

<400> 705

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 706
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS56 Fab heavy chain

<400> 706

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 707
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS57 CDRH2

<400> 707

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 708
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS57 Fab heavy chain

<400> 708

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 Tyr Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  709
<211>  13
<212>  PRT
<213>  Artificial

<220>
<223>  YS58 CDRH3

<400>  709

Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Tyr Ser Ser
1               5                   10


<210>  710
<211>  233
<212>  PRT
<213>  Artificial

<220>
<223>  YS58 Fab heavy chain

<400>  710

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 Ser Ile Ser Ser Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 711
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS59 CDRH2

<400> 711

Ser Ile Ser Pro Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 712
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS59 CDRH3

<400> 712

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser
1 5 10

<210> 713
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS59 Fab heavy chain

<400> 713

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

```
Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 714
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS60 Fab heavy chain

<400> 714

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140
```

```
Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 715
<211> 9
<212> PRT
<213> Artificial

<220>
<223> YS61 CDRH1

<400> 715

```
Gly Phe Ser Ile Ser Ser Tyr Ser Ile
1               5
```

<210> 716
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS61 CDRH2

<400> 716

```
Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 717
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS61 Fab heavy chain

<400> 717

```
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 Ser Ile Ser Ser Tyr
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Tyr Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 718
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS62 CDRH2

<400> 718

Ser Ile Ser Pro Ser Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 719
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS62 CDRH3

<400> 719

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser
1 5 10

<210> 720
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS62 Fab heavy chain

<400> 720

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 Ser Ile Ser Tyr Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Ser Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 721
<211> 13
<212> PRT
<213> Artificial

<220>
<223> YS63 CDRH3

<400> 721

Ser Ser Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser
1 5 10

<210> 722
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS63 Fab heavy chain.

<400> 722

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 723
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK1 CDRH2

<400> 723

Ser Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 724
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK1 CDRH3

<400> 724

Glu Ser Leu Ala His Trp Ser Ala Met Asp Tyr
1 5 10

<210> 725
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 725

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Glu Ser Leu Ala His Trp Ser
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 726
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK2 CDRH2

<400> 726

Leu Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 727
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK2 CDRH3

<400> 727

Ser Ser Phe Ala Phe Trp Leu Ala Met Asp Tyr
1 5 10

<210> 728
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 728

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Leu Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala Phe Trp Leu
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 729
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK3 CDRH2

<400> 729

Met Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 730
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK3 CDRH3

<400> 730

Thr Ser Phe Ala Phe Trp Asn Ala Met Asp Tyr
1 5 10

<210> 731
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 731

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Met Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Thr Ser Phe Ala Phe Trp Asn
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 732
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK4 CDRH2

<400> 732

Arg Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 733
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK4 CDRH3

<400> 733

Ser Ser Phe Ala Phe Phe Ser Ala Met Asp Tyr
1 5 10

<210> 734
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 734

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

```
Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Arg Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala Phe Phe Ser
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 735
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK5 CDRH2

<400> 735

Ser Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 736
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK5 CDRH3

<400> 736

Ala Ser Phe Ala Phe Phe Ser Ala Met Asp Tyr
1 5 10

<210> 737
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 737

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ala Ser Phe Ala Phe Phe Ser
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

```
Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 738
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK6 CDRH2

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa is any naturally occurring amino acid or a stop codon

<400> 738

```
Xaa Ser Leu Ala Leu Tyr Asp Ala Met Asp Tyr
1               5                   10
```

<210> 739
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 Heavy Chain Variant

<220>
<221> MISC_FEATURE
<222> (122)..(122)
<223> Xaa is any naturally occurring amino acid or a stop codon

<400> 739

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                   10                  15
```

```
Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Asp Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Xaa Ser Leu Ala Leu Tyr Asp
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 740
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK7 CDRH2

<400> 740

Tyr Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 741
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK7 CDRH3

<400> 741

Phe Ser Phe Ala Phe Arg Met Ala Met Asp Tyr
1 5 10

<210> 742
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 742

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Phe Ser Phe Ala Phe Arg Met
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

```
Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 743
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK8 CDRH2

<400> 743

```
Gly Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 744
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK8 CDRH3

<400> 744

```
Gly Ser Phe Ala Phe Phe Gly Ala Met Asp Tyr
1               5                   10
```

<210> 745
<211> 250
<212> PRT
<213> Artificial

<220>

<223> YADS2 heavy chain variant

<400> 745

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Gly Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Gly Ser Phe Ala Phe Phe Gly
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 746
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK9 CDRH2

<400> 746

Leu Ile Ala Pro Tyr Ala Asp Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 747
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK9 CDRH3

<400> 747

Ser Ser Tyr Ala Arg Trp Ser Ala Met Asp Tyr
1 5 10

<210> 748
<211> 249
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 748

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Ala Leu Ile Ala Pro Tyr Ala Asp Ala Thr
65 70 75 80

Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr
85 90 95

Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
100 105 110

```
Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Arg Trp Ser Ala
        115                 120                 125

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
    130                 135                 140

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
145                 150                 155                 160

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
                165                 170                 175

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
            180                 185                 190

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
        195                 200                 205

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
    210                 215                 220

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
225                 230                 235                 240

Glu Pro Lys Ser Cys Asp Lys Thr His
                245
```

<210> 749
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK10 CDRH2

<400> 749

```
Tyr Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 750
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK10 CDRH3

<400> 750

```
Ser Ser Tyr Ala Phe Phe Arg Ala Met Asp Tyr
1               5                   10
```

<210> 751
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 751

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Tyr Ala Phe Phe Arg
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220
```

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 752
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK11 CDRH2

<400> 752

Ile Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 753
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK11 CDRH3

<400> 753

Ser Ser Tyr Ala Phe Phe Arg Ala Met Asp Tyr
1 5 10

<210> 754
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 754

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val His Ile Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

```
Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Ala Ser Ser Tyr Ala Phe Phe Arg
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 755
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK12 CDRH2

<400> 755

```
Val Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 756
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK12 CDRH3

<400> 756

Asn Ser Phe Ala Phe Phe Gly Ala Met Asp Tyr
1 5 10

<210> 757
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 757

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asn Ser Phe Ala Phe Phe Gly
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 758
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK13 CDRH2

<400> 758

Phe Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 759
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK13 CDRH3

<400> 759

Ser Ser Phe Ala Phe Trp Met Ala Met Asp Tyr
1 5 10

<210> 760
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 760

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

```
Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala Phe Trp Met
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 761
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK14 CDRH3

<400> 761

```
Gly Ser Phe Ala Phe Trp Ser Ala Met Asp Tyr
1               5                   10
```

<210> 762
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 762

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Gly Ser Phe Ala Phe Trp Ser
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240
```

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 763
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK15 CDRH3

<400> 763

Asn Ser Phe Ala Phe Phe Gly Ala Met Asp Tyr
1 5 10

<210> 764
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 764

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asn Ser Phe Ala Phe Phe Gly
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 765
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK16 CDRH2

<400> 765

Asn Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 766
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK16 CDRH3

<400> 766

Ser Ser Phe Ala Phe Phe Met Ala Met Asp Tyr
1 5 10

<210> 767
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 767

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Asn Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala Phe Phe Met
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 768
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK17 CDRH2

<400> 768

Val Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 769
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 769

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asn Ser Phe Ala Phe Phe Gly
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

```
Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 770
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK18 CDRH2

<400> 770

```
Phe Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 771
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK18 CDRH3

<400> 771

```
Arg Ser Phe Ala Phe Tyr Asn Ala Met Asp Tyr
1               5                   10
```

<210> 772
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 772

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                   10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30
```

```
Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Arg Ser Phe Ala Phe Tyr Asn
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 773
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK19 CDRH3

<400> 773

Ser Ser Phe Ala Phe Tyr Gly Ala Met Asp Tyr
1 5 10

<210> 774
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 774

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala Phe Tyr Gly
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

```
Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250

<210>  775
<211>  11
<212>  PRT
<213>  Artificial

<220>
<223>  NNK20 CDRH3

<400>  775

Ser Ser Phe Ala Phe Lys Ala Ala Met Asp Tyr
1               5                   10

<210>  776
<211>  250
<212>  PRT
<213>  Artificial

<220>
<223>  YADS2 heavy chain variant

<400>  776

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                   10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala Phe Lys Ala
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140
```

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 777
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK21 CDRH2

<400> 777

Ala Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 778
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK21 CDRH3

<400> 778

Leu Ser Phe Ala Leu Tyr Asn Ala Met Asp Tyr
1 5 10

<210> 779
<211> 250
<212> PRT
<213> Artificial

<220>

<223> YADS2 heavy chain variant

<400> 779

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Leu Ser Phe Ala Leu Tyr Asn
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 780
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK22 CDRH2

<400> 780

Tyr Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 781
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK22 CDRH3

<400> 781

Val Ser Trp Ala Phe Phe Gln Ala Met Asp Tyr
1 5 10

<210> 782
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 782

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

```
Asp Thr Ala Val Tyr Tyr Cys Ser Arg Val Ser Trp Ala Phe Phe Gln
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 783
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK23 CDRH2

<400> 783

```
Trp Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 784
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK23 CDRH3

<400> 784

```
Leu Ser Leu Ala Tyr Phe His Ala Met Asp Tyr
1               5                   10
```

<210> 785
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 785

```
Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1               5                  10                  15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
            20                  25                  30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
        35                  40                  45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
    50                  55                  60

Gly Lys Gly Leu Glu Trp Val Ala Trp Ile Ala Pro Tyr Ala Gly Ala
65                  70                  75                  80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Leu Ser Leu Ala Tyr Phe His
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220
```

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 786
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK24 CDRH2

<400> 786

Val Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 787
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK24 CDRH3

<400> 787

Asn Ser Phe Ala Phe Phe Gly Ala Met Asp Tyr
1 5 10

<210> 788
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 788

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

```
Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
                85                  90                  95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asn Ser Phe Ala Phe Phe Gly
        115                 120                 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250
```

<210> 789
<211> 11
<212> PRT
<213> Artificial

<220>
<223> NNK25 CDRH3

<400> 789

```
Ile Ser Phe Ala Phe Phe Gly Ala Met Asp Tyr
1               5                   10
```

<210> 790
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 790

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ile Ser Phe Ala Phe Phe Gly
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 791
<211> 11

<212> PRT
<213> Artificial

<220>
<223> NNK26 CDRH3

<400> 791

Ser Ser Phe Ala His Met His Ala Met Asp Tyr
1 5 10

<210> 792
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 792

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Ser Phe Ala His Met His
115 120 125

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
165 170 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
180 185 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
195 200 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
210 215 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225 230 235 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
245 250

<210> 793
<211> 17
<212> PRT
<213> Artificial

<220>
<223> NNK27 CDRH2

<400> 793

Val Ile Ala Pro Tyr Ala Gly Ala Thr Ala Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 794
<211> 250
<212> PRT
<213> Artificial

<220>
<223> YADS2 heavy chain variant

<400> 794

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala Glu Val Gln Leu Val Glu Ser Gly Gly
20 25 30

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
35 40 45

Gly Phe Ala Ile Tyr Asp Tyr Asp Ile His Trp Val Arg Gln Ala Pro
50 55 60

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ala Pro Tyr Ala Gly Ala
65 70 75 80

Thr Ala Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
85 90 95

```
Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
            100                 105                 110

Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asn Ser Phe Ala Phe Phe Gly
        115                 120                 125

Asp Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
    130                 135                 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
145                 150                 155                 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
                165                 170                 175

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            180                 185                 190

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
        195                 200                 205

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
    210                 215                 220

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
225                 230                 235                 240

Val Glu Pro Lys Ser Cys Asp Lys Thr His
                245                 250


<210>  795
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YS #1 CDR-H1

<400>  795

Gly Phe Tyr Ile Ser Ser Ser Ser Ile His
1               5                   10


<210>  796
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS #1 CDR-H2

<400>  796

Ser Ile Ser Pro Ser Ser Gly Ser Thr Ile Tyr Ala Asp Ser Val Lys
1               5                   10                  15
```

Gly

<210> 797
<211> 15
<212> PRT
<213> Artificial

<220>
<223> YS #1 CDR-H3

<400> 797

Tyr Tyr Ser Ser Ser Ser Ser Tyr Ser Tyr Ser Ala Met Asp Tyr
1 5 10 15

<210> 798
<211> 231
<212> PRT
<213> Artificial

<220>
<223> YS #1 HC

<400> 798

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 Tyr Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Ser Ser Gly Ser Thr Ile Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Ser Ser Tyr Ser Tyr Ser Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
115 120 125

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
130 135 140

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
145 150 155 160

```
Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
                165                 170                 175

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
            180                 185                 190

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
        195                 200                 205

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
    210                 215                 220

Lys Ser Cys Asp Lys Thr His
225                 230


<210>  799
<211>  5
<212>  PRT
<213>  Artificial

<220>
<223>  YS #2 CDR-H1

<400>  799

Gly Phe Ile Ile His
1               5


<210>  800
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS #2 CDR-H2

<400>  800

Tyr Ile Tyr Pro Ser Tyr Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly



<210>  801
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS #2 CDR-H3

<400>  801

Tyr Tyr Tyr Ser Ser Tyr Ser Ser Ser Tyr Tyr Ser Ser Ala Met Asp
1               5                   10                  15
```

Tyr

<210> 802
<211> 228
<212> PRT
<213> Artificial

<220>
<223> YS #2 HC

<400> 802

```
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 Ile Ile His Trp Val
            20                  25                  30

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Tyr Pro
        35                  40                  45

Ser Tyr Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
    50                  55                  60

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
65                  70                  75                  80

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg Tyr Tyr Tyr
                85                  90                  95

Ser Ser Tyr Ser Ser Ser Tyr Tyr Ser Ser Ala Met Asp Tyr Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115                 120                 125

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
    130                 135                 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145                 150                 155                 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
                165                 170                 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
            180                 185                 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
    210                 215                 220
```

Asp Lys Thr His
225

<210> 803
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #3 CDR-H1

<400> 803

Gly Phe Tyr Ile Ser Ser Ser Ser Ile His
1 5 10

<210> 804
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #3 CDR-H2

<400> 804

Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 805
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #3 CDR-H3

<400> 805

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 806
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #3 HC

<400> 806

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 Tyr Ile Ser Ser Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 807
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #4 CDR-H1

<400> 807

Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1 5 10

<210> 808
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #4 CDR-H2

<400> 808

Ser Ile Ser Pro Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 809
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #4 CDR-H3

<400> 809

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 810
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #4 HC

<400> 810

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  811
<211>  5
<212>  PRT
<213>  Artificial

<220>
<223>  YS #5 CDR-H1

<400>  811

Gly Phe Ile Ile His
1               5


<210>  812
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS #5 CDR-H2

<400>  812

Ser Ile Ser Pro Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1               5                   10                  15
```

Gly

<210> 813
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #5 CDR-H3

<400> 813

Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 814
<211> 228
<212> PRT
<213> Artificial

<220>
<223> YS #5 HC

<400> 814

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 Ile Ile His Trp Val
20 25 30

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Pro
35 40 45

Ser Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
50 55 60

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
65 70 75 80

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Tyr Tyr
85 90 95

Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His
225

<210> 815
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #6 CDR-H1

<400> 815

Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1 5 10

<210> 816
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #6 CDR-H2

<400> 816

Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 817
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #6 CDR-H3

<400> 817

Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 818
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #6 HC

<400> 818

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 819
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #7 CDR-H1

<400> 819

Gly Phe Tyr Ile Ser Ser Ser Ser Ile His
1 5 10

<210> 820
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #7 CDR-H2

<400> 820

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 821
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #7 CDR-H3

<400> 821

Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 822
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #7 HC

<400> 822

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 Tyr Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 823
<211> 10
<212> PRT
<213> Artificial

<220>

<223> YS #8 CDR-H1

<400> 823

Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1 5 10

<210> 824
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #8 CDR-H2

<400> 824

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 825
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #8 CDR-H3

<400> 825

Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 826
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #8 HC

<400> 826

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

```
Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  827
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YS #9 CDR-H1

<400>  827

Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1               5                   10


<210>  828
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS #9 CDR-H2
```

<400> 828

Ser Ile Ser Pro Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 829
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #9 CDR-H3

<400> 829

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 830
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #9 HC

<400> 830

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 831
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #10 CDR-H1

<400> 831

Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1 5 10

<210> 832
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #10 CDR-H2

<400> 832

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 833
<211> 17
<212> PRT
<213> Artificial

<220>

<223> YS #10 CDR-H3

<400> 833

Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 834
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #10 HC

<400> 834

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
115 120 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
130 135 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145 150 155 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
165 170 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180 185 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
195 200 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
210 215 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 835
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #11 CDR-H1

<400> 835

Gly Phe Ser Ile Ser Ser Tyr Ser Ile His
1 5 10

<210> 836
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #11 CDR-H2

<400> 836

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 837
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #11 CDR-H3

<400> 837

Ser Ser Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala Met Asp
1 5 10 15

Tyr

<210> 838
<211> 233
<212> PRT
<213> Artificial

<220>
<223> YS #11 HC

<400> 838

```
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 Ser Ile Ser Ser Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Ser Ser Ala
            100                 105                 110

Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
        115                 120                 125

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
    130                 135                 140

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
145                 150                 155                 160

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
                165                 170                 175

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
            180                 185                 190

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
        195                 200                 205

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
    210                 215                 220

Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 839
<211> 5

<212> PRT
<213> Artificial

<220>
<223> YS #12 CDR-H1

<400> 839

Gly Phe Ile Ile His
1 5

<210> 840
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #12 CDR-H2

<400> 840

Ser Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 841
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #12 CDR-H3

<400> 841

Ser Tyr Ser Tyr Ser Ser Tyr Ser Tyr Ser Tyr Ser Tyr Ala Met Asp
1 5 10 15

Tyr

<210> 842
<211> 228
<212> PRT
<213> Artificial

<220>
<223> YS #12 HC

<400> 842

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 Ile Ile His Trp Val
20 25 30

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Pro
35 40 45

```
Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
    50                  55                  60

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
65                  70                  75                  80

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg Ser Tyr Ser
                85                  90                  95

Tyr Ser Ser Tyr Ser Tyr Ser Tyr Ser Tyr Ala Met Asp Tyr Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115                 120                 125

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
    130                 135                 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145                 150                 155                 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
                165                 170                 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
            180                 185                 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
    210                 215                 220

Asp Lys Thr His
225
```

<210> 843
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #13 CDR-H1

<400> 843

```
Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1               5                   10
```

<210> 844
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #13 CDR-H2

<400> 844

Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 845
<211> 19
<212> PRT
<213> Artificial

<220>
<223> YS #13 CDR-H3

<400> 845

Tyr Tyr Tyr Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr Tyr Ala
1 5 10 15

Met Asp Tyr

<210> 846
<211> 235
<212> PRT
<213> Artificial

<220>
<223> YS #13 HC

<400> 846

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Tyr Ser Tyr Tyr Ser Ser Ser Tyr Ser Ser Tyr Tyr
100 105 110

Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
130 135 140

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
145 150 155 160

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
165 170 175

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
180 185 190

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
195 200 205

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
210 215 220

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230 235

<210> 847
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #14 CDR-H1

<400> 847

Gly Phe Ser Ile Tyr Ser Ser Ser Ile His
1 5 10

<210> 848
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #14 CDR-H2

<400> 848

Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 849
<211> 16

<212> PRT
<213> Artificial

<220>
<223> YS #14 CDR-H3

<400> 849

Tyr Tyr Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr Ala Met Asp Tyr
1 5 10 15

<210> 850
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS #14 HC

<400> 850

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 Ser Ile Tyr Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Ser Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
115 120 125

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
130 135 140

Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145 150 155 160

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
165 170 175

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
180 185 190

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu
210 215 220

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 851
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #15 CDR-H1

<400> 851

Gly Phe Ser Ile Ser Tyr Ser Ser Ile His
1 5 10

<210> 852
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #15 CDR-H2

<400> 852

Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 853
<211> 19
<212> PRT
<213> Artificial

<220>
<223> YS #15 CDR-H3

<400> 853

Tyr Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Ser Ser Tyr Tyr Tyr Ala
1 5 10 15

Met Asp Tyr

<210> 854
<211> 235
<212> PRT
<213> Artificial

<220>
<223> YS #15 HC

<400> 854

```
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 Ser Ile Ser Tyr Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Ser Ser Tyr Ser Ser Ser Ser Tyr Tyr Ser Ser Tyr Tyr
            100                 105                 110

Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
    130                 135                 140

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
145                 150                 155                 160

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
                165                 170                 175

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
            180                 185                 190

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
        195                 200                 205

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
    210                 215                 220

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235
```

<210> 855
<211> 10

<212> PRT
<213> Artificial

<220>
<223> YS #16 CDR-H1

<400> 855

Gly Phe Ser Ile Tyr Tyr Ser Ser Ile His
1 5 10

<210> 856
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #16 CDR-H2

<400> 856

Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 857
<211> 16
<212> PRT
<213> Artificial

<220>
<223> YS #16 CDR-H3

<400> 857

Tyr Tyr Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala Met Asp Tyr
1 5 10 15

<210> 858
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS #16 HC

<400> 858

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 Ser Ile Tyr Tyr Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

```
Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala Met
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
        115                 120                 125

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
    130                 135                 140

Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145                 150                 155                 160

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
                165                 170                 175

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
            180                 185                 190

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu
    210                 215                 220

Pro Lys Ser Cys Asp Lys Thr His
225                 230


<210>  859
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YS #17 CDR-H1

<400>  859

Gly Phe Ser Ile Ser Ser Ser Ser Ile His
1               5                   10


<210>  860
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  YS #17 CDR-H2
```

<400> 860

Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 861
<211> 16
<212> PRT
<213> Artificial

<220>
<223> YS #17 CDR-H3

<400> 861

Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr Ala Met Asp Tyr
1 5 10 15

<210> 862
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS #17 HC

<400> 862

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 Ser Ile Ser Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
115 120 125

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
130 135 140

Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145 150 155 160

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
165 170 175

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
180 185 190

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu
210 215 220

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 863
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #18 CDR-H1

<400> 863

Gly Phe Ser Ile Tyr Ser Ser Ser Ile His
1 5 10

<210> 864
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #18 CDR-H2

<400> 864

Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 865
<211> 16
<212> PRT
<213> Artificial

<220>
<223> YS #18 CDR-H3

<400> 865

Tyr Tyr Tyr Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ala Met Asp Tyr
1 5 10 15

<210> 866
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS #18 HC

<400> 866

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 Ser Ile Tyr Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Tyr Ser Tyr Ser Ser Tyr Ser Tyr Tyr Tyr Ala Met
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
115 120 125

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
130 135 140

Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145 150 155 160

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
165 170 175

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
180 185 190

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
195 200 205

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu
210 215 220

Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 867
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #19 CDR-H1

<400> 867

Gly Phe Ser Ile Ser Tyr Ser Ser Ile His
1 5 10

<210> 868
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #19 CDR-H2

<400> 868

Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 869
<211> 18
<212> PRT
<213> Artificial

<220>
<223> YS #19 CDR-H3

<400> 869

Tyr Tyr Ser Ser Tyr Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Ala Met
1 5 10 15

Asp Tyr

<210> 870
<211> 234
<212> PRT
<213> Artificial

<220>
<223> YS #19 HC

<400> 870

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 Ser Ile Ser Tyr Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Ser Tyr Ser Tyr Tyr Ser Ser Ser Tyr Tyr Tyr
100 105 110

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
115 120 125

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
130 135 140

Thr Ser Gly Gly 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 Gln Thr Tyr
195 200 205

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
210 215 220

Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230

<210> 871
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #20 CDR-H1

<400> 871

Gly Phe Ser Ile Ser Tyr Ser Ser Ile His
1 5 10

<210> 872
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #20 CDR-H2

<400> 872

Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 873
<211> 16
<212> PRT
<213> Artificial

<220>
<223> YS #20 CDR-H3

<400> 873

Tyr Tyr Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala Met Asp Tyr
1 5 10 15

<210> 874
<211> 232
<212> PRT
<213> Artificial

<220>
<223> YS #20 HC

<400> 874

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 Ser Ile Tyr Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Ser Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

```
Ser Arg Tyr Tyr Ser Ser Ser Ser Tyr Tyr Ser Tyr Tyr Tyr Ala Met
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
        115                 120                 125

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
    130                 135                 140

Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145                 150                 155                 160

Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
                165                 170                 175

Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
            180                 185                 190

Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
        195                 200                 205

Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu
    210                 215                 220

Pro Lys Ser Cys Asp Lys Thr His
225                 230
```

<210> 875
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #21 CDR-H1

<400> 875

```
Gly Phe Ser Ile Tyr Ser Ser Ser Ile His
1               5                   10
```

<210> 876
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #21 CDR-H2

<400> 876

```
Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 877
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #21 CDR-H3

<400> 877

Ser Thr Tyr Ala Phe Phe Ser Ala Met Asp Tyr
1 5 10

<210> 878
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #21 HC

<400> 878

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 Ser Ile Tyr Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Thr Tyr Ala Phe Phe Ser Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 879
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #22 CDR-H1

<400> 879

Gly Phe Ser Ile Tyr Ser Tyr Ser Ile His
1 5 10

<210> 880
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #22 CDR-H2

<400> 880

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 881
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #22 CDR-H3

<400> 881

Ser Ser Tyr Ala Phe Phe Ser Ala Met Asp Tyr
1 5 10

<210> 882
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #22 HC

<400> 882

```
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 Ser Ile Tyr Ser Tyr
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Tyr Ala Phe Phe Ser Ala Met 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 Gly 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 Cys Asp
    210                 215                 220

Lys Thr His
225
```

<210> 883
<211> 10

<212> PRT
<213> Artificial

<220>
<223> YS #23 CDR-H1

<400> 883

Gly Phe Ser Ile Ser Ser Tyr Ser Ile His
1 5 10

<210> 884
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #23 CDR-H2

<400> 884

Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 885
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #23 CDR-H3

<400> 885

Ser Ser Tyr Ala Phe Phe Gly Ala Met Asp Tyr
1 5 10

<210> 886
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #23 HC

<400> 886

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 Ser Ile Ser Ser Tyr
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Tyr Ala Phe Phe Gly Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 887
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #24 CDR-H1

<400> 887

Gly Phe Tyr Ile Ser Ser Tyr Ser Ile His
1 5 10

<210> 888
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #24 CDR-H2

<400> 888

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 889
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #24 CDR-H3

<400> 889

Thr Ser Tyr Ala Phe Phe Gly Ala Met Asp Tyr
1 5 10

<210> 890
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #24 HC

<400> 890

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 Tyr Ile Ser Ser Tyr
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Thr Ser Tyr Ala Phe Phe Gly Ala Met 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 Gly 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 Cys Asp
    210                 215                 220

Lys Thr His
225
```

<210> 891
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #25 CDR-H1

<400> 891

```
Gly Phe Ser Ile Tyr Ser Tyr Ser Ile His
1               5                   10
```

<210> 892
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #25 CDR-H2

<400> 892

```
Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1               5                   10                  15

Gly
```

<210> 893
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #25 CDR-H3

<400> 893

Ser Ser Phe Ala Phe Phe Ser Ala Met Asp Tyr
1 5 10

<210> 894
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #25 HC

<400> 894

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 Ser Ile Tyr Ser Tyr
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Phe Ala Phe Phe Ser Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 895
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #26 CDR-H1

<400> 895

Gly Phe Ser Ile Tyr Ser Tyr Ser Ile His
1 5 10

<210> 896
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #26 CDR-H2

<400> 896

Ser Ile Ser Pro Ser Tyr Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 897
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #26 CDR-H3

<400> 897

Ser Ser Phe Ala Phe Phe Gly Ala Met Asp Tyr
1 5 10

<210> 898
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #26 HC

<400> 898

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 Ser Ile Tyr Ser Tyr
20 25 30

```
Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Ser Tyr Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Phe Ala Phe Phe Gly Ala Met 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 Gly 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 Cys Asp
    210                 215                 220

Lys Thr His
225


<210>  899
<211>  10
<212>  PRT
<213>  Artificial

<220>
<223>  YS #27 CDR-H1

<400>  899

Gly Phe Ser Ile Tyr Ser Ser Ser Ile His
1               5                   10
```

<210> 900
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #27 CDR-H2

<400> 900

Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 901
<211> 11
<212> PRT
<213> Artificial

<220>
<223> YS #27 CDR-H3

<400> 901

Ser Thr Phe Ala Phe Tyr Ser Ala Met Asp Tyr
1 5 10

<210> 902
<211> 227
<212> PRT
<213> Artificial

<220>
<223> YS #27 HC

<400> 902

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 Ser Ile Tyr Ser Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Thr Phe Ala Phe Tyr Ser Ala Met 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 Gly 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 Cys Asp
210 215 220

Lys Thr His
225

<210> 903
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #28 CDR-H1

<400> 903

Gly Phe Ser Ile Ser Tyr Ser Ser Ile His
1 5 10

<210> 904
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #28 CDR-H2

<400> 904

Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 905
<211> 23

<212> PRT
<213> Artificial

<220>
<223> YS #28 CDR-H3

<400> 905

Ser Ser Tyr Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Tyr Ser Ser Tyr
1 5 10 15

Ser Ser Ser Ala Met Asp Tyr
20

<210> 906
<211> 239
<212> PRT
<213> Artificial

<220>
<223> YS #28 HC

<400> 906

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 Ser Ile Ser Tyr Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Tyr Tyr Tyr Ser Ser Ser Tyr Tyr Tyr Tyr Tyr Ser
100 105 110

Ser Tyr Ser Ser Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
115 120 125

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
130 135 140

Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
145 150 155 160

Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
165 170 175

Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
180 185 190

Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
195 200 205

Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
210 215 220

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225 230 235

<210> 907
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #29 CDR-H1

<400> 907

Gly Phe Ser Ile Ser Tyr Ser Ser Ile His
1 5 10

<210> 908
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #29 CDR-H2

<400> 908

Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 909
<211> 23
<212> PRT
<213> Artificial

<220>
<223> YS #29 CDR-H3

<400> 909

Ser Ser Tyr Tyr Tyr Pro Pro Ser Tyr Tyr Tyr Tyr Asn Ser Ser Tyr
1 5 10 15

Ser Ser Ser Ala Met Asp Tyr
20

<210> 910
<211> 239
<212> PRT
<213> Artificial

<220>
<223> YS #29 HC

<400> 910

```
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 Ser Ile Ser Tyr Ser
            20                  25                  30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Ser Pro Tyr Ser Gly Tyr Thr Ser Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Ser Ser Tyr Tyr Tyr Pro Pro Ser Tyr Tyr Tyr Tyr Asn Ser
            100                 105                 110

Ser Tyr Ser Ser Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
        115                 120                 125

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
    130                 135                 140

Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
145                 150                 155                 160

Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
                165                 170                 175

Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
            180                 185                 190

Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
        195                 200                 205

Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
    210                 215                 220

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235
```

<210> 911
<211> 10
<212> PRT
<213> Artificial

<220>
<223> YS #30 CDR-H1

<400> 911

Gly Phe Ser Ile Tyr Tyr Ser Ser Ile His
1 5 10

<210> 912
<211> 17
<212> PRT
<213> Artificial

<220>
<223> YS #30 CDR-H2

<400> 912

Ser Ile Tyr Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 913
<211> 24
<212> PRT
<213> Artificial

<220>
<223> YS #30 CDR-H3

<400> 913

Tyr Tyr Ser Tyr Tyr Ser Ser Tyr Tyr Tyr Ser Ser Ser Ser Ser Ser
1 5 10 15

Ser Tyr Ser Ser Ala Met Asp Tyr
20

<210> 914
<211> 240
<212> PRT
<213> Artificial

<220>
<223> YS #30 HC

<400> 914

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 Ser Ile Tyr Tyr Ser
20 25 30

```
Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ser Ile Tyr Pro Tyr Ser Gly Ser Thr Ser Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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

Ser Arg Tyr Tyr Ser Tyr Tyr Ser Ser Tyr Tyr Tyr Ser Ser Ser Ser
            100                 105                 110

Ser Ser Ser Tyr Ser Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu
        115                 120                 125

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
    130                 135                 140

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
145                 150                 155                 160

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
                165                 170                 175

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
            180                 185                 190

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
        195                 200                 205

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
    210                 215                 220

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
225                 230                 235                 240
```

<210> 915
<211> 7
<212> PRT
<213> Artificial

<220>
<223> CDRH3

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa is Tyr or Phe

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa is Val or Ala

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa is Phe or Tyr

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is Leu or Ala

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa is Pro or Ala

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa is Tyr or Phe

<400> 915

Xaa Xaa Phe Xaa Xaa Xaa Xaa
1 5

<210> 916
<211> 6
<212> PRT
<213> Artificial

<220>
<223> CDRL1

<220>
<221> MISC_FEATURE
<222> (1)..(2)
<223> Xaa is any amino acid

<220>
<221> MISC_FEATURE
<222> (3)..(4)
<223> Xaa is Arg

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is Ser or Ala

<400> 916

Xaa Xaa Xaa Xaa Xaa Leu
1 5

<210> 917
<211> 3
<212> PRT
<213> Artificial

<220>
<223> CDRL2

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa is Ser or Ala or Gly

<220>
<221> MISC_FEATURE
<222> (2)..(3)
<223> Xaa is any amino acid

<400> 917

Xaa Xaa Xaa
1

<210> 918
<211> 6
<212> PRT
<213> Artificial

<220>
<223> CDRL3

<220>
<221> MISC_FEATURE
<222> (2)..(3)
<223> Xaa is any amino acid

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa is Ser or Ala

<400> 918

Ser Xaa Xaa Xaa Pro Leu
1 5

<210> 919
<211> 6
<212> PRT
<213> Artificial

<220>
<223> CDRL2

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa is Ser, Ala or Gly

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa is any amino acid

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa is any amino acid

<400> 919

Xaa Ala Ser Xaa Leu Xaa
1 5

<210> 920
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Terminator Sequence

<400> 920
gctcggttgc cgccgggcgt tttttat 27

<210> 921
<211> 6
<212> PRT
<213> Artificial

<220>
<223> B29 CDRH1

<400> 921

Thr Gly Ser Gly Ile His
1 5

<210> 922
<211> 18
<212> PRT
<213> Artificial

<220>
<223> B29 CDRH2

<400> 922

Gly Trp Ile Tyr Pro Tyr Ser Gly Asn Thr Tyr Tyr Ala Asp Ser Val
1 5 10 15

Lys Gly

<210> 923
<211> 12
<212> PRT
<213> Artificial

<220>
<223> B29 CDRH3

<400> 923

Ala Leu Trp Ala Phe Val Pro Ala Ala Met Asp Tyr
1 5 10

<210> 924
<211> 228
<212> PRT
<213> Artificial

<220>
<223> B29 heavy chain

<400> 924

```
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 Ile Thr Gly Ser
            20                  25                  30

Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Gly Ala Ile Tyr Pro Tyr Ser Gly Tyr Thr Asn Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Ala Leu Trp Ala Phe Val Pro Ala Ala Met Asp Tyr Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115                 120                 125

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
    130                 135                 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145                 150                 155                 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
                165                 170                 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
            180                 185                 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
    210                 215                 220

Asp Lys Thr His
225
```

<210> 925
<211> 6
<212> PRT

<213> Artificial

<220>
<223> C3 CDRH1

<400> 925

Thr Gly Ser Ser Ile His
1 5

<210> 926
<211> 18
<212> PRT
<213> Artificial

<220>
<223> C3 CDRH2

<400> 926

Ala Arg Ile Ser Pro Ala Gly Gly Tyr Thr Asp Tyr Ala Asp Ser Val
1 5 10 15

Lys Gly

<210> 927
<211> 228
<212> PRT
<213> Artificial

<220>
<223> C3 heavy chain

<400> 927

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 Ile Thr Gly Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Arg Ile Ser Pro Ala Gly Gly Tyr Thr Asp Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn 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 Tyr Phe Arg Trp Tyr Met Pro Ala Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser

115 120 125

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His
225

<210> 928
<211> 12
<212> PRT
<213> Artificial

<220>
<223> C3 CDRH3

<400> 928

Tyr Phe Arg Trp Tyr Met Pro Ala Ala Met Asp Tyr
1 5 10

<210> 929
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Sequence comprising CDRH3

<400> 929

Phe Val Phe Phe Leu Pro Tyr
1 5

<210> 930
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Sequence comprising CDRH3

<400> 930

Phe Val Phe Phe Leu Pro Tyr Ala Met Asp Tyr
1 5 10

<210> 931
<211> 8
<212> PRT
<213> Artificial

<220>
<223> Sequence comprising CDRH3

<400> 931

Trp Gly His Ser Thr Ser Pro Trp
1 5

<210> 932
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Sequence comprising CDRH3

<400> 932

Trp Gly His Ser Thr Ser Pro Trp Ala Met Asp Tyr
1 5 10

<210> 933
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Sequence comprising CDRH3

<400> 933

Ala Leu Trp Ala Phe Val Ala
1 5

<210> 934
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Sequence comprising CDRH3

<400> 934

Tyr Phe Arg Trp Tyr Met Ala
1 5