SEQUENCE LISTING

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<120> THERAPEUTIC ANTIBODIES

<130> 400100.401WO

<140> PCT
<141> 2019-05-30

<150> US 62/678,890
<151> 2018-05-31

<160> 51

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain variable (VH)
domain of antibody hBBC.10.1FQ

<400> 1

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Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1               5                  10                  15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Ser Gly
            20                  25                  30
Tyr Thr Trp His Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp
        35                  40                  45
Leu Gly Tyr Ile His Tyr Thr Gly Asn Thr Lys Tyr Ser Pro Ser Leu
    50                  55                  60
Lys Ser Arg Leu Ser Ile Ser Arg Asp Thr Ser Lys Asn Thr Phe Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Thr Thr Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Gly Arg Glu Ala Leu Arg Gly Tyr Asp Ala Gly Phe Trp Phe Thr Tyr
            100                 105                 110
Trp Gly Gln Gly Thr Leu Val Thr Val
        115                 120
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<210> 2
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain complementarity
determining region 1 (VH CDR1) of antibody
IMH2/BBC, antibody hBBC.8, antibody hBBC.9,

<400> 2
Ser Gly Tyr Thr Trp His
1 5

<210> 3
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH CDR2 of antibody hBBC.9.1,
antibody hBBC.10.1, and antibody hBBC.10.1FQ

<400> 3
Tyr Ile His Tyr Thr Gly Asn Thr Lys Tyr Ser Pro Ser Leu Lys Ser
1 5 10 15

<210> 4
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH CDR3 of antibody
hBBC.10.1, and antibody hBBC.10.1FQ

<400> 4
Glu Ala Leu Arg Gly Tyr Asp Ala Gly Phe Trp Phe Thr Tyr
1 5 10

<210> 5
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - light chain variable (VL)
domain of antibody hBBC.10, antibody hBBC.10.1,
and antibody hBBC.10.1FQ

<400> 5
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 Thr Ala Ser Glu Asp Ile Tyr Asn Arg

```
            20                  25                  30
Leu Thr Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Arg Leu Leu Ile
        35                  40                  45
Ser Gly Ala Thr Ser Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Trp Thr Thr Pro Trp
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100                 105
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<210> 6
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - light chain complementarity determining region 1 (VL CDR1) of antibody IMH2/BBC, antibody hBBC.8, antibody hBBC.9,

<400> 6
Thr Ala Ser Glu Asp Ile Tyr Asn Arg Leu Thr
 1   5   10

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

<220>
<223> Synthetic sequence - VL CDR2 of antibody IMH2/BBC, antibody hBBC.8, antibody hBBC.9, antibody hBBC.9.1, antibody hBBC.10, antibody hBBC.10.1, and antibody hBBC.10.1FQ

<400> 7
Gly Ala Thr Ser Leu Asp Thr
 1   5

<210> 8
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL CDR3 of antibody IMH2/BBC, antibody hBBC.8, antibody hBBC.9, antibody hBBC.9.1, antibody hBBC.10, antibody hBBC.10.1, and antibody hBBC.10.1FQ

<400> 8
Gln Gln Tyr Trp Thr Thr Pro Trp Thr

1 5

<210> 9
<211> 278
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - single chain fragment variable (scFv) derived from antibody hBBC.10.1, in the [VL-VH] orientation

<220>
<221> VARIANT
<222> (113)...(157)
<223> Any one or all of amino acids 113-157 can either be present or absent

<400> 9
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 Thr Ala Ser Glu Asp Ile Tyr Asn Arg
20 25 30
Leu Thr Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Arg Leu Leu Ile
35 40 45
Ser Gly Ala Thr Ser Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Trp Thr Thr Pro Trp
85 90 95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
130 135 140
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
145 150 155 160
Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser
165 170 175
Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Ser Gly Tyr Thr Trp
180 185 190
His Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Leu Gly Tyr
195 200 205
Ile His Tyr Thr Gly Asn Thr Lys Tyr Ser Pro Ser Leu Lys Ser Arg
210 215 220
Leu Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Phe Leu Lys Leu
225 230 235 240
Ser Ser Val Thr Thr Glu Asp Thr Ala Val Tyr Tyr Cys Gly Arg Glu
245 250 255
Ala Leu Arg Gly Tyr Asp Ala Gly Phe Trp Phe Thr Tyr Trp Gly Gln
260 265 270
Gly Thr Leu Val Thr Val

275

<210> 10
<211> 453
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - full-length heavy chain (HC)
of antibody hBBC.10.1

<400> 10
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Ser Gly
20 25 30
Tyr Thr Trp His Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp
35 40 45
Leu Gly Tyr Ile His Tyr Thr Gly Asn Thr Lys Tyr Ser Pro Ser Leu
50 55 60
Lys Ser Arg Leu Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80
Leu Lys Leu Ser Ser Val Thr Thr Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Gly Arg Glu Ala Leu Arg Gly Tyr Asp Ala Gly Phe Trp Phe Thr Tyr
100 105 110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125
Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
130 135 140
Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
145 150 155 160
Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
165 170 175
Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
180 185 190
Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
195 200 205
Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
210 215 220
Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
225 230 235 240
Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
245 250 255
Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
260 265 270
Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
275 280 285
Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
290 295 300
Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
305 310 315 320
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
325 330 335

```
Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
            340                 345                 350
Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
        355                 360                 365
Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
    370                 375                 380
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
385                 390                 395                 400
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
                405                 410                 415
Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
            420                 425                 430
Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
        435                 440                 445
Leu Ser Pro Gly Lys
    450

<210> 11
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - full-length light chain (LC)
      of antibody hBBC.10, antibody hBBC.10.1, and
      antibody hBBC.10.1FQ

<400> 11
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 Thr Ala Ser Glu Asp Ile Tyr Asn Arg
            20                  25                  30
Leu Thr Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Arg Leu Leu Ile
        35                  40                  45
Ser Gly Ala Thr Ser Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Trp Thr Thr Pro Trp
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Leu 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> 12
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain variable (VH)
domain of antibody hBBC.10.1

<400> 12
caggtgcagc tgcaggaaag cggcccgggc ctggtgaaac cgagccagac cctgagcctg 60
acctgcaccg tgagcggcta tagcattacc agcggctata cctggcattg gattcgccag 120
catccgggca aaggcctgga atggctgggc tatattcatt ataccggcaa caccaaatat 180
agcccgagcc tgaaaagccg cctgagcatt agccgcgata ccagcaaaaa ccagttcttc 240
ctgaaactga gcagcgtgac caccgaagat accgcggtgt attattgcgg ccgcgaagcg 300
ctgcgcggct atgatgctgg cttctggttt acctattggg gccaaggcac cctggtgacc 360
gtg 363

<210> 13
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain complementarity
determining region 1 (VH CDR1) of antibody
IMH2/BBC, antibody hBBC.8, antibody hBBC.9

<400> 13
agcggctata cctggcat 18

<210> 14
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH CDR2 of antibody hBBC.9.1,
antibody hBBC.10, and antibody hBBC.10.1FQ

<400> 14
tatattcatt ataccggcaa caccaaatat agcccgagcc tgaaaagc 48

<210> 15
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH CDR3 of antibody hBBC.10.1
and antibody hBBC.10.1FQ

<400> 15
gaagcgctgc gcggctatga tgctggcttc tggtttacct at 42

<210> 16
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - light chain variable (VL)
domain of antibody hBBC.10, antibody hBBC.10.1,
and antibody hBBC.10.1FQ

<400> 16
gatattcaga tgacccagag cccgagcagc ctgagcgcga gcgtgggcga tcgcgtgacc 60
attacctgca ccgcgagcga agatatttat aaccgcctga cctggtatca gcagaaaccg 120
ggcaaagtgc cgcgtctgct gatttctggc gcgaccagcc tggataccgg cgtgccgagc 180
cgctttagcg gcagcggcag cggcaccgat tacaccctga ccattagcag cctgcagccg 240
gaagatgtgg cgacctatta ttgccagcag tattggacca ccccgtggac ctttggccag 300
ggcaccaaac tggaaattaa a 321

<210> 17
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - light chain complementarity
determining region 1 (VL CDR1) of antibody
IMH2/BBC, antibody hBBC.8, antibody hBBC.9

<400> 17
accgcgagcg aagatattta taaccgcctg acc 33

<210> 18
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL CDR2 of antibody IMH2/BBC,
antibody hBBC.8, antibody hBBC.9, antibody
hBBC.9.1, antibody hBBC.10, antibody hBBC.10.1,
and antibody hBBC.10.1FQ

<400> 18
ggcgcgacca gcctggatac c 21

<210> 19
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL CDR3 of antibody antibody IMH2/BBC, antibody hBBC.8, antibody hBBC.9, antibody hBBC.9.1, antibody hBBC.10, antibody hBBC.10.1, and antibody hBBC.10.1FQ

<400> 19
cagcagtatt ggaccacccc gtggacc 27

<210> 20
<211> 834
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - single chain fragment variable (scFv) in the [VL-(L)-VH] orientation derived from antibody hBBC.10.1

<220>
<221> misc_feature
<222> (337)...(471)
<223> Any one or all of nucleotides 337-471 can either be present or absent.

<400> 20
gatattcaga tgacccagag cccgagcagc ctgagcgcga gcgtgggcga tcgcgtgacc 60
attacctgca ccgcgagcga agatatttat aaccgcctga cctggtatca gcagaaaccg 120
ggcaaagtgc cgcgtctgct gatttctggc gcgaccagcc tggataccgg cgtgccgagc 180
cgctttagcg gcagcggcag cggcaccgat tacaccctga ccattagcag cctgcagccg 240
gaagatgtgg cgacctatta ttgccagcag tattggacca ccccgtggac ctttggccag 300
ggcaccaaac tggaaattaa aggtggaggc ggttctggtg gaggcggttc tggtggaggc 360
ggttctggtg gaggcggttc tggtggaggc ggttctggtg gaggcggttc tggtggaggc 420
ggttctggtg gaggcggttc tggtggaggc ggttctggtg gaggcggttc tcaggtgcag 480
ctgcaggaaa gcggcccggg cctggtgaaa ccgagccaga ccctgagcct gacctgcacc 540
gtgagcggct atagcattac cagcggctat acctggcatt ggattcgcca gcatccgggc 600
aaaggcctgg aatggctggg ctatattcat tataccggca acaccaaata tagcccgagc 660
ctgaaaagcc gcctgagcat tagccgcgat accagcaaaa accagttctt cctgaaactg 720
agcagcgtga ccaccgaaga taccgcggtg tattattgcg gccgcgaagc gctgcgcggc 780
tatgatgctg gcttctggtt tacctattgg ggccaaggca ccctggtgac cgtg 834

<210> 21
<211> 1362
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - full-length heavy chain (HC) of antibody hBBC.10.1

<400> 21
caggtgcagc tgcaggaaag cggcccgggc ctggtgaaac cgagccagac cctgagcctg 60
acctgcaccg tgagcggcta tagcattacc agcggctata cctggcattg gattcgccag 120

catccgggca aaggcctgga atggctgggc tatattcatt ataccggcaa caccaaatat 180
agcccgagcc tgaaaagccg cctgagcatt agccgcgata ccagcaaaaa ccagttcttc 240
ctgaaactga gcagcgtgac caccgaagat accgcggtgt attattgcgg ccgcgaagcg 300
ctgcgcggct atgatgctgg cttctggttt acctattggg gccaaggcac cctggtgacc 360
gtgtcgagcg cttccaccaa gggcccatcg gtcttccccc tggcaccctc ctccaagagc 420
acctctgggg gcacagcggc cctgggctgc ctggtcaagg actacttccc cgaaccggtg 480
acggtgtcgt ggaactcagg cgccctgacc agcggcgtgc acaccttccc ggctgtccta 540
cagtcctcag gactctactc cctcagcagc gtggtgaccg tgccctccag cagcttgggc 600
acccagacct acatctgcaa cgtgaatcac aagcccagca acaccaaggt ggacaagaaa 660
gttgagccca aatcttgtga caaaactcac acatgcccac cgtgcccagc acctgaactc 720
ctggggggac cgtcagtctt cctcttcccc ccaaaaccca aggacaccct catgatctcc 780
cggacccctg aggtcacatg cgtggtggtg gacgtgagcc acgaagaccc tgaggtcaag 840
ttcaactggt acgtggacgg cgtggaggtg cataatgcca agacaaagcc gcgggaggag 900
cagtacaaca gcacgtaccg tgtggtcagc gtcctcaccg tcctgcacca ggactggctg 960
aatggcaagg agtacaagtg caaggtctcc aacaaagccc tcccagcccc catcgagaaa 1020
accatctcca aagccaaagg gcagccccga gaaccacagg tgtacaccct gccccatcc 1080
cgggatgagc tgaccaagaa ccaggtcagc ctgacctgcc tggtcaaagg cttctatccc 1140
agcgacatcg ccgtggagtg ggagagcaat gggcagccgg agaacaacta caagaccacg 1200
cctcccgtgc tggactccga cggctccttc ttcctctaca gcaagctcac cgtggacaag 1260
agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcatgaggc tctgcacaac 1320
cactacacgc agaagagcct ctccctgtct ccgggtaaat ga 1362

<210> 22
<211> 645
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - full-length light chain (LC)
of antibody hBBC.10.1 and antibody hBBC.10.1FQ

<400> 22
gatattcaga tgacccagag cccgagcagc ctgagcgcga gcgtgggcga tcgcgtgacc 60
attacctgca ccgcgagcga agatatttat aaccgcctga cctggtatca gcagaaaccg 120
ggcaaagtgc cgcgtctgct gatttctggc gcgaccagcc tggataccgg cgtgccgagc 180
cgctttagcg gcagcggcag cggcaccgat tacaccctga ccattagcag cctgcagccg 240
gaagatgtgg cgacctatta ttgccagcag tattggacca ccccgtggac ctttggccag 300
ggcaccaaac tggaaattaa acgtacggtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactcccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gttaa 645

<210> 23
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - illustrative spacer amino
acid sequence

<400> 23

Glu Gly Lys Ser Ser Gly Ser Gly Ser Glu Ser Lys Val Asp
 1   5   10

<210> 24
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - illustrative spacer amino
      acid sequence

<400> 24
Lys Glu Ser Gly Ser Val Ser Ser Glu Gln Leu Ala Gln Phe Arg Ser
 1   5   10   15
Leu Asp

<210> 25
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - flexible polylinker amino
      acid sequence

<400> 25
Gly Gly Gly Gly Ser
 1   5

<210> 26
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - flexible polylinker amino
      acid sequence

<400> 26
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1   5   10   15

<210> 27
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL domain of antibody
      IMH2/BBC

<400> 27

```
Asp Ile Gln Met Thr Gln Ser Ser Ser Ser Phe Ser Val Ser Leu Gly
 1               5                  10                  15
Asp Arg Val Thr Ile Thr Cys Thr Ala Ser Glu Asp Ile Tyr Asn Arg
            20                  25                  30
Leu Thr Trp Tyr Gln Gln Lys Pro Gly Asn Val Pro Arg Leu Leu Ile
        35                  40                  45
Ser Gly Ala Thr Ser Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Arg Ser Gly Lys Asp Tyr Ala Leu Ser Ile Thr Ser Leu Gln Thr
65                  70                  75                  80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Trp Thr Thr Pro Trp
                85                  90                  95
Thr Phe Gly Gly Gly Thr Arg Leu Glu Ile Lys
            100                 105
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<210> 28
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH domain of antibody IMH2/BBC

<400> 28

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Asp Val Gln Leu Gln Glu Ser Gly Pro Asp Leu Val Lys Pro Ser Gln
 1               5                  10                  15
Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Gly
            20                  25                  30
Tyr Thr Trp His Trp Ile Arg Gln Phe Pro Gly Asn Thr Leu Glu Trp
        35                  40                  45
Leu Gly Tyr Ile His Tyr Ser Gly Asn Thr Lys Tyr Ser Pro Ser Leu
    50                  55                  60
Lys Ser Arg Leu Ser Val Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65                  70                  75                  80
Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
                85                  90                  95
Gly Arg Glu Ala Leu Arg Gly Tyr Asp His Gly Phe Trp Phe Thr Tyr
            100                 105                 110
Trp Gly Gln Gly Thr Leu Val Thr Val
        115                 120
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<210> 29
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL domain of human acceptor framework AAS01771.1

<400> 29

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

```
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Tyr
            20                  25                  30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
        35                  40                  45
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Lys Tyr Asn Ser Ala Pro Tyr
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100                 105
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<210> 30
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH domain of human acceptor framework CAD89404.1

<400> 30

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

<210> 31
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL domain of antibody hBBC.8

<400> 31

```
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 Thr Ala Ser Glu Asp Ile Tyr Asn Arg
            20                  25                  30
Leu Thr Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Arg Leu Leu Ile
```

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

<210> 32
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH domain of antibody hBBC.8, antibody hBBC.9, and antibody hBBC.10

<400> 32

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

<210> 33
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VL domain of antibody hBBC.9 and antibody hBBC.9.1

<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 Thr Ala Ser Glu Asp Ile Tyr Asn Arg
            20                  25                  30
Leu Thr Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Arg Leu Leu Ile
        35                  40                  45
Ser Gly Ala Thr Ser Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
```

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

<210> 34
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH domain of antibody hBBC.9.1

<400> 34

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

<210> 35
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - VH domain of antibody hBBC.10.1

<400> 35

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

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

<210> 36
<211> 278
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - single chain fragment variable (scFv) derived from antibody hBBC.10.1 in the [VH-VL] orientation

<220>
<221> VARIANT
<222> (127)...(171)
<223> Any one or all of amino acids 127-171 can either be present or absent.

<400> 36
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Ser Gly
20 25 30
Tyr Thr Trp His Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp
35 40 45
Leu Gly Tyr Ile His Tyr Thr Gly Asn Thr Lys Tyr Ser Pro Ser Leu
50 55 60
Lys Ser Arg Leu Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80
Leu Lys Leu Ser Ser Val Thr Thr Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Gly Arg Glu Ala Leu Arg Gly Tyr Asp Ala Gly Phe Trp Phe Thr Tyr
100 105 110
Trp Gly Gln Gly Thr Leu Val Thr Val Gly Gly Gly Gly Ser Gly Gly
115 120 125
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
130 135 140
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
145 150 155 160
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
165 170 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
180 185 190
Thr Cys Thr Ala Ser Glu Asp Ile Tyr Asn Arg Leu Thr Trp Tyr Gln
195 200 205
Gln Lys Pro Gly Lys Val Pro Arg Leu Leu Ile Ser Gly Ala Thr Ser
210 215 220

```
Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Val Ala Thr
                245                 250                 255
Tyr Tyr Cys Gln Gln Tyr Trp Thr Thr Pro Trp Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Leu Glu Ile Lys
        275
```

<210> 37
<211> 834
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence - single chain fragment variable (scFv) in the [VH-(L)-VL] orientation derived from antibody hBBC.10.1

<220>
<221> misc_feature
<222> (393)...(513)
<223> Any one or all of nucleotides 393-513 can either be present or absent.

<400> 37
caggtgcagc tgcaggaaag cggcccgggc ctggtgaaac cgagccagac cctgagcctg 60
acctgcaccg tgagcggcta tagcattacc agcggctata cctggcattg gattcgccag 120
catccgggca aaggcctgga atggctgggc tatattcatt ataccggcaa caccaaatat 180
agcccgagcc tgaaaagccg cctgagcatt agccgcgata ccagcaaaaa ccagttcttc 240
ctgaaactga gcagcgtgac caccgaagat accgcggtgt attattgcgg ccgcgaagcg 300
ctgcgcggct atgatgctgg cttctggttt acctattggg gccaaggcac cctggtgacc 360
gtgggtggag gcggttctgg tggaggcggt tctggtggag gcggttctgg tggaggcggt 420
tctggtggag gcggttctgg tggaggcggt tctggtggag gcggttctgg tggaggcggt 480
tctggtggag gcggttctgg tggaggcggt tctgatattc agatgaccca gagcccgagc 540
agcctgagcg cgagcgtggg cgatcgcgtg accattacct gcaccgcgag cgaagatatt 600
tataaccgcc tgacctggta tcagcagaaa ccgggcaaag tgccgcgtct gctgatttct 660
ggcgcgacca gcctggatac cggcgtgccg agccgcttta gcggcagcgg cagcggcacc 720
gattacaccc tgaccattag cagcctgcag ccggaagatg tggcgaccta ttattgccag 780
cagtattgga ccaccccgtg gacctttggc cagggcacca aactggaaat taaa 834

<210> 38
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain framework region 3 hBBC.10.1

<400> 38
```
Arg Leu Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Phe Leu Lys
 1               5                  10                  15
Leu Ser Ser Val Thr Thr Glu Asp Thr Ala Val Tyr Tyr Cys Gly Arg
```

20 25 30

<210> 39
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain framework region 3 hBBC.10.1FQ

<400> 39
Arg Leu Ser Ile Ser Arg Asp Thr Ser Lys Asn Thr Phe Tyr Leu Gln
1 5 10 15
Met Asn Ser Leu Thr Thr Glu Asp Thr Ala Val Tyr Tyr Cys Gly Arg
20 25 30

<210> 40
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain framework region 3 reference 1

<400> 40
Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Phe Tyr Leu Gln
1 5 10 15
Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 41
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - heavy chain framework region 3 reference 2

<400> 41
Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln
1 5 10 15
Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg
20 25 30

<210> 42
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - of CDRH2 of IMH2/hBBC

<400> 42
Tyr Ile His Tyr Ser Gly Asn Thr Lys Tyr Ser Pro Ser Leu Lys Ser
 1   5   10   15

<210> 43
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - of CDRH2 of IMH2/hBBC

<400> 43
Glu Ala Leu Arg Gly Tyr Asp His Gly Phe Trp Phe Thr
 1   5   10

<210> 44
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 1

<400> 44
Val Gln Leu Gln Glu Trp Gly Pro Gly Leu Val Lys Pro Ser Gln Thr
 1   5   10   15
Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Tyr Asn Phe Gly
            20   25   30
His Tyr Trp Ser Trp Ile Arg His Tyr Pro Gly Lys Gly Leu Glu Trp
        35   40   45
Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
    50   55   60
Lys Ser Arg Leu Thr Ile Ser Ala Asp Thr Ser Lys Asn Gln Phe Ser
65   70   75   80
Leu Glu Leu Asn Ser Met Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Ala Gly Gly Ser Ala Ala Gly Thr His Asp Ala Phe Asp Ile
            100   105   110
Trp Gly Gln Gly Thr Met Val Thr Val
        115   120

<210> 45
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 2

<400> 45
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15

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

<210> 46
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 3

<400> 46

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

<210> 47
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 4

<400> 47

```
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1               5                  10                  15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Ser Ser Gly
            20                  25                  30
```

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

<210> 48
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 5

<400> 48
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Thr Ser Ile Ser Thr Gly
            20   25   30
Gly Tyr His Trp Thr Trp Ile Arg Gln Gln Pro Gly Lys Gly Leu Glu
        35   40   45
Trp Leu Gly Tyr Ile Tyr His Ser Gly Ser Ser Tyr Tyr Asn Pro Ser
    50   55   60
Leu Lys Ser Arg Leu Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe
65   70   75   80
Ser Leu Asn Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85   90   95
Cys Ala Arg Asn Ser Gly Ala Asp Phe Asp Tyr Trp Gly Gln Gly Thr
            100   105   110
Leu Val Thr Val
        115

<210> 49
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 6

<400> 49
Gln Leu Gln Leu Gln Glu Ser Gly Pro Arg Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Ser Val Ser Gly Gly Ser Ile Ser Gly Ala
            20   25   30
Tyr His Trp Ser Trp Ile Arg Gln Leu Pro Gly Lys Gly Leu Glu Trp
        35   40   45

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

<210> 50
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence - Human Acceptor VH 7

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

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

<220>
<223> Synthetic sequence - Human Acceptor VH 8

<400> 51
Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr Asn Gly
            20   25   30
Phe Trp Ile Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Tyr Met
        35   40   45
Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
    50   55   60

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