

SEQUENCE LISTING

<110> GlycoNex, Inc.
 Chang, Tong-Hsuan
 Yang, Mei-Chun
 Liu, Liahng-Yirn
 Ting, Jerry
 Chang, Shu-Yen
 Chen, Yen-Ying
 Lin, Yu-Yu
 Tang, Shu-Lun

<120> THERAPEUTIC ANTIBODIES

<130> 400100.401W0

<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

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							

<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									

<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,

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

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

Gln	Gln	Tyr	Trp	Thr	Thr	Pro	Trp	Thr
-----	-----	-----	-----	-----	-----	-----	-----	-----

5

<211> 278

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$

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

 $\langle 220 \rangle$

<221> VARIANT

<222> (113)...(157)

<223> Any one or all of amino acids 113-157 can either be present or absent

<400> 9

[illegible]

<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
agcccagacc tgaaaagccg cctgagcatt agccgcgata ccagcaaaaa ccagttcttc 240
ctgaaactga gcagcgtgac caccgaagat accgcggtgt attattgcgg ccgcgaagcg 300
ctgcgcggct atgatgctgg cttctggttt acctattggg gccaaaggcac 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 agcccagacc 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 tgaccagag cccgagcagc ctgagcgca gcgtgggcga tcgcgtgacc 60
attacctgca ccgcgagcga agatatttat aaccgcctga cctggatatca gcagaaaccg 120
ggcaaagtgc cgcgtctgct gatttctggc gcgaccagcc tggataccgg cgtgccgagc 180
cgcttttagcg gcagcggcag cggcaccgat tacaccctga ccattagcag cctgcagccg 240
gaagatgtgg cgacctatta ttgccagcag tattggacca ccccgctggac 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 tgaccagag cccgagcagc ctgagcgcga gcgtgggcga tcgcgtgacc 60
attacctgca ccgcgagcga agatatttat aaccgcctga cctggatatca gcagaaaccg 120
ggcaaagtgc cgcgtctgct gatttctggc gcgaccagcc tggataccgg cgtgccgagc 180
cgcttttagcg gcagcggcag cggcaccgat tacaccctga ccattagcag cctgcagccg 240
gaagatgtgg cgacctatta ttgccagcag tattggacca ccccgctggac ctttggccag 300
ggcaccaaac tggaaattaa aggtggaggc ggttctgggtg gaggcggttc tgggtggaggc 360
ggttctgggtg gaggcggttc tgggtggaggc ggttctgggtg gaggcggttc tgggtggaggc 420
ggttctgggtg gaggcggttc tgggtggaggc ggttctgggtg gaggcggttc tcaggtgcag 480
ctgcaggaaa gcggcccggg cctggtgaaa ccgagccaga ccctgagcct gacctgcacc 540
gtgagcggct atagcattac cagcggctat acctggcatt ggattcgcca gcatccgggc 600
aaaggcctgg aatggctggg ctatattcat tataccggca acaccaaata tagcccagagc 660
ctgaaaagcc gcctgagcat tagccgcgat accagcaaaa accagttctt cctgaaactg 720
agcagcgtga ccaccgaaga taccgcggtg tattattgcg gccgcgaagc gctgcgcggc 780
tatgatgctg gcttctgggtt 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	attattgctg	ccgcgaagcg	300
ctgcgcggct	atgatgctgg	cttctgggtt	acctattggg	gccaaggcac	cctggtgacc	360
gtgtcgagcg	cttccaccaa	gggcccacg	gtcttcccc	tggcaccctc	ctccaagagc	420
acctctgggg	gcacagcggc	cctgggctgc	ctgggtcaagg	actacttccc	cgaaccggtg	480
acgggtgtcgt	ggaactcagg	cgccctgacc	agcggcgtgc	acaccttccc	ggctgtccta	540
cagtcctcag	gactctactc	cctcagcagc	gtgggtgaccg	tgccctccag	cagcttgggc	600
acccagacct	acatctgcaa	cgtgaatcac	aagcccagca	acaccaaggt	ggacaagaaa	660
gttgagccca	aatcttgtga	caaaactcac	acatgcccac	cgtgcccagc	acctgaactc	720
ctgggggggac	cgtcagtctt	cctcttcccc	ccaaaaccca	aggacaccct	catgatctcc	780
cggacccctg	aggtcacatg	cgtgggtggtg	gacgtgagcc	acgaagaccc	tgagggtcaag	840
ttcaactgggt	acgtggacgg	cgtgggaggtg	cataatgcc	agacaaagcc	gcgggaggag	900
cagtacaaca	gcacgtaccg	tgtgggtcagc	gtcctcaccg	tcctgcacca	ggactggctg	960
aatggcaagg	agtacaagtg	caaggtctcc	aacaaagccc	tcccagcccc	catcgagaaa	1020
accatctcca	aagccaaagg	gcagccccga	gaaccacagg	tgtacaccct	gccccatcc	1080
cgggatgagc	tgaccaagaa	ccaggtcagc	ctgacctgcc	tgggtcaaagg	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	tgaccagag	cccgagcagc	ctgagcgcga	gcgtgggcga	tcgcgtgacc	60
attacctgca	ccgcgagcga	agatatttat	aaccgcctga	cctgggtatca	gcagaaaccg	120
ggcaaagtgc	cgctctgct	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	tggaaactgcc	tctgttgtgt	gcctgctgaa	taacttctat	420
cccagagagg	caaagtaca	gtggaagggtg	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

<210> 28

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 28

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

<210> 29

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 29

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

Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala	Ser	Gln	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							

<210> 30

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 30

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

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
 agcccagacc tgaaaagccg cctgagcatt agccgcgata ccagcaaaaa ccagttcttc 240
 ctgaaactga gcagcgtgac caccgaagat accgcggtgt attattgcgg ccgcgaagcg 300
 ctgcgcggct atgatgctgg cttctggttt acctattggg gccaaaggcac cctggtgacc 360
 gtgggtggag gcggttctgg tggaggcggg tctggtggag gcggttctgg tggaggcggg 420
 tctggtggag gcggttctgg tggaggcggg tctggtggag gcggttctgg tggaggcggg 480
 tctggtggag gcggttctgg tggaggcggg tctgatattc agatgacca gagccgagc 540
 agcctgagcg cgagcgtggg cgatcgcgtg accattacct gcaccgcgag cgaagatatt 600
 tataaccgcc tgacctggtg tcagcagaaa ccgggcaaag tgccgcgtct gctgatttct 660
 ggcgcgacca gcctggatac cggcgtgccg agccgcttta gcggcagcgg cagcggcacc 720
 gattacacc tgaccattag cagcctgcag ccggaagatg tggcgacctt ttattgccag 780
 cagtattgga ccaccccggtg 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				

[illegible]