

Sequence listing

<110> CHIA TAI TIANQING PHARMACEUTICAL GROUP CO., LTD.

<120> ANTIGEN BINDING CONSTRUCTS TARGETING HER2 AND USES THEREOF

<160> 55

<170> SIPOSequenceListing 1.0

<210> 1

<211> 475

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence of anti-Her2-scFv-Fc

<400> 1

```

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

```

Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr
		275					280					285			
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn
	290					295					300				
Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg
305				310						315					320
Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val
			325					330					335		
Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser
			340				345					350			
Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys
		355					360					365			
Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu
	370					375					380				
Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe
385				390						395					400
Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu
			405					410					415		
Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe
		420					425						430		
Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly
		435					440					445			
Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr
	450					455					460				
Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys					
465				470						475					

<210> 2

<211> 1425

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-scFv-Fc

<400> 2

gaggtgcagc	tggtggagtc	tggaggagga	ctggtgcagc	caggaggcag	cctgcggctg	60
tcttgtgccg	cttccggctt	caacatcaag	gacacctaca	tccattgggt	gaggcaggct	120
ccaggcaagg	gactggagtg	ggtggctcgg	atctatccta	ccaatggcta	cacaagatat	180
gccgactccg	tgaagggccg	gtttaccatc	agcgccgata	cctctaagaa	cacagcttac	240
ctgcagatga	attccctgag	ggccgaggac	acagccgtgt	actattgcag	cagatgggga	300
ggcgacggct	tctacgctat	ggattattgg	ggccagggca	ccctggtgac	agtgtccagc	360
ggcggcggcg	gctctggagg	aggaggatcc	ggaggaggag	gaagcgatat	ccagatgacc	420
cagtccccctt	cttccctgtc	tgccctccgtg	ggcgacagag	tgaccatcac	atgtcgcgct	480
agccaggatg	tgaacacagc	cgtggcttgg	taccagcaga	agccaggcaa	ggcccccaag	540
ctgctgatct	actccgcctc	cttctgttat	tccggagtgc	caagcagggt	ttccggaagc	600
cggtctggaa	ccgacttcac	cctgacaatc	agctctctgc	agcctgagga	ttttgccaca	660
tactattgcc	agcagcacta	taccacaccc	cctaccttcg	gccagggcac	aaaggtggag	720
atcaagggcg	agccaaagtc	cagcgacaag	accatacat	gcccaccatg	tcctgctcca	780
gagctgtctg	gcggcccttc	cgtgttcctg	tttcctccaa	agccaaagga	taccctgatg	840
atctctagaa	cccctgaggt	gacatgcgtg	gtggtggacg	tgtcccacga	ggatccagag	900
gtgaagtta	actggtacgt	ggacggcgtg	gaggtgcata	atgccaagac	caagccaaga	960
gaggagcagt	acaattctac	ctatcgcgtg	gtgtccgtgc	tgacagtgtc	gcaccaggat	1020

tggtgaacg	gcaaggagta	taagtgaag	gtgagcaata	aggccctgcc	cgctcccatc	1080
gagaagacca	tctctaaggc	taagggccag	cccagagagc	ctcaggtgta	cacactgccc	1140
cctagccgcg	aggagatgac	caagaaccag	gtgtctctga	catgtctggt	gaagggcttt	1200
tatccatctg	acatcgccgt	ggagtgggag	tccaatggcc	agcccgagaa	caattacaag	1260
accacaccac	ccgtgctgga	ctctgatggc	tccttctttc	tgtattccaa	gctgaccgtg	1320
gataagagcc	gctggcagca	gggcaacgtg	ttctcctgca	gcgtgatgca	tgaggctctg	1380
cacaatcatt	acacacagaa	gtctctgtcc	ctgagccctg	gcaag		1425

<210> 3
 <211> 475
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence of anti-Her2-scFv-VL-F53Y-Fc

<400> 3

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	Asn	Ile	Lys	Asp	Thr	20	25	30	
Tyr	Ile	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	35	40	45	
Ala	Arg	Ile	Tyr	Pro	Thr	Asn	Gly	Tyr	Thr	Arg	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	Trp	Gly	Gly	Asp	Gly	Phe	Tyr	Ala	Met	Asp	Tyr	Trp	Gly	Gln	100	105	110	
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	115	120	125	
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	130	135	140	
Ser	Leu	Ser	Ala	Ser	Val	Gly	Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala	145	150	155	160
Ser	Gln	Asp	Val	Asn	Thr	Ala	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	165	170	175	
Lys	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Ser	Ala	Ser	Tyr	Leu	Tyr	Ser	Gly	180	185	190	
Val	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Arg	Ser	Gly	Thr	Asp	Phe	Thr	Leu	195	200	205	
Thr	Ile	Ser	Ser	Leu	Gln	Pro	Glu	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Gln	210	215	220	
Gln	His	Tyr	Thr	Thr	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	225	230	235	240
Ile	Lys	Gly	Glu	Pro	Lys	Ser	Ser	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	245	250	255	
Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	260	265	270	
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	275	280	285	

Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn
 290 295 300
 Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
 305 310 315 320
 Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
 325 330 335
 Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
 340 345 350
 Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
 355 360 365
 Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu
 370 375 380
 Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 385 390 395 400
 Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 405 410 415
 Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 420 425 430
 Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
 435 440 445
 Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
 450 455 460
 Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 465 470 475

<210> 4

<211> 1425

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-scFv-VL-F53Y-Fc

<400> 4

gaggtgcagc	tggtggagtc	tggaggagga	ctggtgcagc	caggaggcag	cctgcggctg	60
tcttgtgccg	cttccggctt	caacatcaag	gacacctaca	tccattgggt	gaggcaggct	120
ccaggcaagg	gactggagtg	ggtggctcgg	atctatccta	ccaatggcta	cacaagatat	180
gccgactccg	tgaagggccg	gtttaccatc	agcgccgata	cctctaagaa	cacagcttac	240
ctgcagatga	attccctgag	ggccgaggac	acagccgtgt	actattgcag	cagatgggga	300
ggcgacggct	tctacgctat	ggattatttg	ggccagggca	ccctgggtgac	agtgtccagc	360
ggcggcggcg	gctctggagg	aggaggatcc	ggaggaggag	gaagcgatat	ccagatgacc	420
cagtccccctt	cttccctgtc	tgcctccgtg	ggcgacagag	tgaccatcac	atgtcgcgct	480
agccaggatg	tgaacacagc	cgtggcttgg	taccagcaga	agccaggcaa	ggcccccaag	540
ctgctgatct	actccgcctc	ctacctgtat	tccggagtgc	caagcaggtt	ttccggaagc	600
cggctctggaa	ccgacttcac	cctgacaatc	agctctctgc	agcctgagga	ttttgccaca	660
tactattgcc	agcagcacta	taccacaccc	cctaccttcg	gccagggcac	aaaggtggag	720
atcaagggcg	agccaaagtc	cagcgacaag	accatacat	gccaccatg	tcctgctcca	780
gagctgctgg	gcggcccttc	cgtgttcctg	tttctccaa	agccaaagga	taccctgatg	840
atctctagaa	cccctgagg	gacatgcgtg	gtgggtggacg	tgtcccacga	ggatccagag	900
gtgaagtta	actggtacgt	ggacggcgtg	gaggtgcata	atgccaagac	caagccaaga	960
gaggagcagt	acaattctac	ctatcgctg	gtgtccgtgc	tgacagtgt	gcaccaggat	1020
tggtgaacg	gcaaggagta	taagtgaag	gtgagcaata	aggccctgcc	cgctcccatc	1080
gagaagacca	tctctaaggc	taagggccag	cccagagagc	ctcaggtgta	cacactgccc	1140

cctagccg	aggagatgac	caagaaccag	gtgtctctga	catgtctggt	gaagggcttt	1200
tatccatctg	acatcgccgt	ggagtgggag	tccaatggcc	agcccagaaa	caattacaag	1260
accacaccac	ccgtgctgga	ctctgatggc	tccttctttc	tgtattccaa	gctgaccgtg	1320
gataagagcc	gctggcagca	gggcaacgtg	ttctcctgca	gcgtgatgca	tgaggctctg	1380
cacaatcatt	acacacagaa	gtctctgtcc	ctgagccctg	gcaag		1425

<210> 5
 <211> 475
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence of anti-Her2-scFv-VL-F53A-Fc

<400> 5

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	Asn	Ile	Lys	Asp	Thr	
			20					25					30			
Tyr	Ile	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	
		35					40					45				
Ala	Arg	Ile	Tyr	Pro	Thr	Asn	Gly	Tyr	Thr	Arg	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	Trp	Gly	Gly	Asp	Gly	Phe	Tyr	Ala	Met	Asp	Tyr	Trp	Gly	Gln	
			100					105					110			
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	
		115					120					125				
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	
		130				135					140					
Ser	Leu	Ser	Ala	Ser	Val	Gly	Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala	
145					150				155						160	
Ser	Gln	Asp	Val	Asn	Thr	Ala	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	
			165						170					175		
Lys	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Ser	Ala	Ser	Ala	Leu	Tyr	Ser	Gly	
			180				185						190			
Val	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Arg	Ser	Gly	Thr	Asp	Phe	Thr	Leu	
		195					200					205				
Thr	Ile	Ser	Ser	Leu	Gln	Pro	Glu	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Gln	
					215						220					
Gln	His	Tyr	Thr	Thr	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	
225					230					235					240	
Ile	Lys	Gly	Glu	Pro	Lys	Ser	Ser	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	
				245					250					255		
Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	
			260				265						270			
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	
			275				280					285				
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	
			290			295					300					

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
 305 310 315 320
 Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
 325 330 335
 Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
 340 345 350
 Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
 355 360 365
 Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu
 370 375 380
 Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 385 390 395 400
 Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 405 410 415
 Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 420 425 430
 Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
 435 440 445
 Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
 450 455 460
 Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 465 470 475

<210> 6

<211> 1425

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-scFv-VL-F53A-Fc

<400> 6

gaggtgcagc	tggtggagtc	tggaggagga	ctggtgcagc	caggaggcag	cctgcggctg	60
tcttgtgccg	cttccggctt	caacatcaag	gacacctaca	tccattgggt	gaggcaggct	120
ccaggcaagg	gactggagtg	ggtggctcgg	atctatccta	ccaatggcta	cacaagatat	180
gccgactccg	tgaagggccg	gtttaccatc	agcgccgata	cctctaagaa	cacagcttac	240
ctgcagatga	attccctgag	ggccgaggac	acagccgtgt	actattgcag	cagatgggga	300
ggcgacggct	tctacgctat	ggattatttg	ggccagggca	ccctggtgac	agtgtccagc	360
ggcggcggcg	gctctggagg	aggaggatcc	ggaggaggag	gaagcgatat	ccagatgacc	420
cagtccccctt	cttccctgtc	tgcctccgtg	ggcgacagag	tgaccatcac	atgtcgcgct	480
agccaggatg	tgaacacagc	cgtggcttgg	taccagcaga	agccaggcaa	ggcccccaag	540
ctgctgatct	actccgcctc	cgccctgtat	tccggagtgc	caagcagggt	ttccggaagc	600
cggctctggaa	ccgacttcac	cctgacaatc	agctctctgc	agcctgagga	ttttgccaca	660
tactattgcc	agcagcacta	taccacaccc	cctaccttcg	gccagggcac	aaaggtggag	720
atcaagggcg	agccaaagtc	cagcgacaag	accatacat	gccaccatg	tcctgctcca	780
gagctgctgg	gcggcccttc	cgtgttcctg	tttctctcaa	agccaaagga	taccctgatg	840
atctctagaa	cccctgaggt	gacatgcgtg	gtggtggacg	tgtcccacga	ggatccagag	900
gtgaagttta	actggtacgt	ggacggcgtg	gaggtgcata	atgccaagac	caagccaaga	960
gaggagcagt	acaattctac	ctatcgcgtg	gtgtccgtgc	tgacagtgct	gcaccaggat	1020
tggctgaacg	gcaaggagta	taagtgcaag	gtgagcaata	aggccctgcc	cgctcccatc	1080
gagaagacca	tctctaaggc	taagggccag	cccagagagc	ctcaggtgta	cacactgccc	1140
cctagccgcg	aggagatgac	caagaaccag	gtgtctctga	catgtctggt	gaagggcttt	1200
tatccatctg	acatcgccgt	ggagtgggag	tccaatggcc	agcccagaaa	caattacaag	1260

accacaccac	ccgtgctgga	ctctgatggc	tccttctttc	tgtattccaa	gctgaccgtg	1320
gataagagcc	gctggcagca	gggcaacgtg	ttctcctgca	gcgtgatgca	tgaggctctg	1380
cacaatcatt	acacacagaa	gtctctgtcc	ctgagccctg	gcaag		1425

<210> 7
 <211> 475
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence of anti-Her2-scFv-VL-F53R-Fc

<400> 7

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	Asn	Ile	Lys	Asp	Thr	20	25	30	
Tyr	Ile	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	35	40	45	
Ala	Arg	Ile	Tyr	Pro	Thr	Asn	Gly	Tyr	Thr	Arg	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	Trp	Gly	Gly	Asp	Gly	Phe	Tyr	Ala	Met	Asp	Tyr	Trp	Gly	Gln	100	105	110	
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	115	120	125	
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	130	135	140	
Ser	Leu	Ser	Ala	Ser	Val	Gly	Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala	145	150	155	160
Ser	Gln	Asp	Val	Asn	Thr	Ala	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	165	170	175	
Lys	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Ser	Ala	Ser	Arg	Leu	Tyr	Ser	Gly	180	185	190	
Val	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Arg	Ser	Gly	Thr	Asp	Phe	Thr	Leu	195	200	205	
Thr	Ile	Ser	Ser	Leu	Gln	Pro	Glu	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Gln	210	215	220	
Gln	His	Tyr	Thr	Thr	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	225	230	235	240
Ile	Lys	Gly	Glu	Pro	Lys	Ser	Ser	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	245	250	255	
Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	260	265	270	
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	275	280	285	
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	290	295	300	
Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	305	310	315	320

Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val
				325					330					335	
Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser
			340					345					350		
Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys
		355					360					365			
Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu
	370					375					380				
Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe
385					390					395					400
Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu
			405					410						415	
Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe
			420					425					430		
Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly
	435						440					445			
Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr
	450					455					460				
Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys					
465					470					475					

<210> 8

<211> 1425

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-scFv-VL-F53R-Fc

<400> 8

gaggtgcagc	tggtggagtc	tggaggagga	ctggtgcagc	caggaggcag	cctgcggctg	60
tcttgtgccg	cttccggctt	caacatcaag	gacacctaca	tccattgggt	gaggcaggct	120
ccaggcaagg	gactggagtg	ggtggctcgg	atctatccta	ccaatggcta	cacaagatat	180
gccgactccg	tgaagggccg	gtttaccatc	agcgccgata	cctctaagaa	cacagcttac	240
ctgcagatga	attccctgag	ggccgaggac	acagccgtgt	actattgcag	cagatgggga	300
ggcgacggct	tctacgctat	ggattatttg	ggccagggca	ccctggtgac	agtgtccagc	360
ggcggcggcg	gctctggagg	aggaggatcc	ggaggaggag	gaagcgatat	ccagatgacc	420
cagtccccct	cttccctgtc	tgcctccgtg	ggcgacagag	tgaccatcac	atgtcgcgct	480
agccaggatg	tgaacacagc	cgtggcttgg	taccagcaga	agccaggcaa	ggcccccaag	540
ctgctgatct	actccgcctc	caggctgtat	tccggagtgc	caagcagggt	ttccggaagc	600
cggtctggaa	ccgacttcac	cctgacaatc	agctctctgc	agcctgagga	ttttgccaca	660
tactattgcc	agcagcacta	taccacaccc	cctaccttcg	gccagggcac	aaaggtggag	720
atcaagggcg	agccaaagtc	cagcgacaag	accatacat	gccaccatg	tcctgctcca	780
gagctgctgg	gcggcccttc	cgtgttcctg	tttctctcaa	agccaaagga	tacctgatg	840
atctctagaa	cccctgaggt	gacatgcgtg	gtggtggacg	tgtcccacga	ggatccagag	900
gtgaagttta	actggtacgt	ggacggcgtg	gaggtgcata	atgccaagac	caagccaaga	960
gaggagcagt	acaattctac	ctatcgctg	gtgtccgtgc	tgacagtgct	gcaccaggat	1020
tggctgaacg	gcaaggagta	taagtgcgaag	gtgagcaata	aggccctgcc	cgctcccatc	1080
gagaagacca	tctctaaggc	taagggccag	cccagagagc	ctcaggtgta	cacactgccc	1140
cctagccgcg	aggagatgac	caagaaccag	gtgtctctga	catgtctggt	gaagggtctt	1200
tatccatctg	acatcgccgt	ggagtgggag	tccaatggcc	agcccagaga	caattacaag	1260
accacaccac	ccgtgctgga	ctctgatggc	tccttctttc	tgtattccaa	gctgaccgtg	1320
gataagagcc	gctggcagca	gggcaacgtg	ttctcctgca	gcgtgatgca	tgaggctctg	1380

cacaatcatt acacacagaa gtctctgtcc ctgagccctg gcaag

1425

<210> 9

<211> 475

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence of anti-Her2-scFv-VH-K30E-Fc

<400> 9

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

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
 340 345 350
 Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
 355 360 365
 Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu
 370 375 380
 Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 385 390 395 400
 Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 405 410 415
 Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 420 425 430
 Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
 435 440 445
 Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
 450 455 460
 Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 465 470 475

<210> 10

<211> 1425

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-scFv-VH-K30E-Fc

<400> 10

gaggtgcagc	tgggtggagtc	tggaggagga	ctggtgcagc	caggaggcag	cctgcggctg	60
tcttgtgccg	cttccggctt	caacatcgag	gacacctaca	tccattgggt	gaggcaggct	120
ccaggcaagg	gactggagtg	ggtggctcgg	atctatccta	ccaatggcta	cacaagatat	180
gccgactccg	tgaagggccg	gtttaccatc	agcgccgata	cctctaagaa	cacagcttac	240
ctgcagatga	attccctgag	ggccgaggac	acagccgtgt	actattgcag	cagatgggga	300
ggcgacggct	tctacgctat	ggattattgg	ggccagggca	ccctggtgac	agtgtccagc	360
ggcggcggcg	gctctggagg	aggaggatcc	ggaggaggag	gaagcgatat	ccagatgacc	420
cagtcccctt	cttcccgtgc	tgcctccgtg	ggcgacagag	tgaccatcac	atgtcgcgct	480
agccaggatg	tgaacacagc	cgtggcttgg	taccagcaga	agccaggcaa	ggccccaag	540
ctgctgatct	actccgcctc	cttccctgtat	tccggagtgc	caagcagggt	ttccggaagc	600
cggctctggaa	ccgacttcac	cctgacaatc	agctctctgc	agcctgagga	ttttgccaca	660
tactattgcc	agcagcacta	taccacaccc	cctaccttcg	gccagggcac	aaaggtggag	720
atcaagggcg	agccaaagtc	cagcgacaag	accatacat	gcccaccatg	tcctgctcca	780
gagctgctgg	gcggcccttc	cgtgttcctg	tttctctcaa	agccaaagga	taccctgatg	840
atctctagaa	cccctgaggt	gacatgcgtg	gtggtggacg	tgtcccacga	ggatccagag	900
gtgaagttaa	actggtacgt	ggacggcgtg	gaggtgcata	atgccaagac	caagccaaga	960
gaggagcagt	acaattctac	ctatcgcgtg	gtgtccgtgc	tgacagtgtc	gcaccaggat	1020
tggctgaacg	gcaaggagta	taagtgcgaag	gtgagcaata	aggccctgcc	cgctcccatc	1080
gagaagacca	tctctaaggc	taagggccag	cccagagagc	ctcaggtgta	cacactgccc	1140
cctagccgcg	aggagatgac	caagaaccag	gtgtctctga	catgtctggt	gaagggtttt	1200
tatccatctg	acatcgccgt	ggagtgggag	tccaatggcc	agcccagaga	caattacaag	1260
accacaccac	ccgtgctgga	ctctgatggc	tccttctttc	tgtattccaa	gctgaccgtg	1320
gataagagcc	gctggcagca	gggcaacgtg	ttctcctgca	gcgtgatgca	tgaggctctg	1380
cacaatcatt	acacacagaa	gtctctgtcc	ctgagccctg	gcaag		1425

<210> 11
 <211> 480
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of anti-Her2-scFv-VH-K30E-VL-F53Y-Fc

<400> 11

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	Asn	Ile	Glu	Asp	Thr	20	25	30	
Tyr	Ile	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	35	40	45	
Ala	Arg	Ile	Tyr	Pro	Thr	Asn	Gly	Tyr	Thr	Arg	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	Trp	Gly	Gly	Asp	Gly	Phe	Tyr	Ala	Met	Asp	Tyr	Trp	Gly	Gln	100	105	110	
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	115	120	125	
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Gln	Met	130	135	140	
Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ser	Ala	Ser	Val	Gly	Asp	Arg	Val	Thr	145	150	155	160
Ile	Thr	Cys	Arg	Ala	Ser	Gln	Asp	Val	Asn	Thr	Ala	Val	Ala	Trp	Tyr	165	170	175	
Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Ser	Ala	Ser	180	185	190	
Tyr	Leu	Tyr	Ser	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Arg	Ser	Gly	195	200	205	
Thr	Asp	Phe	Thr	Leu	Thr	Ile	Ser	Ser	Leu	Gln	Pro	Glu	Asp	Phe	Ala	210	215	220	
Thr	Tyr	Tyr	Cys	Gln	Gln	His	Tyr	Thr	Thr	Pro	Pro	Thr	Phe	Gly	Gln	225	230	235	240
Gly	Thr	Lys	Val	Glu	Ile	Lys	Gly	Glu	Pro	Lys	Ser	Ser	Asp	Lys	Thr	245	250	255	
His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	260	265	270	
Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	275	280	285	
Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	290	295	300	
Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	305	310	315	320
Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	325	330	335	
Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	340	345	350	

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 355 360 365
 Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 370 375 380
 Pro Pro Cys Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Trp Cys
 385 390 395 400
 Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 405 410 415
 Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 420 425 430
 Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 435 440 445
 Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 450 455 460
 Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 465 470 475 480

<210> 12

<211> 1443

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-scFv-VH-K30E-VL-F53Y-Fc

<400> 12

gaggtgcaac	tggtggaatc	cggcggggga	ctggtccaac	ctggaggag	cctgcggctg	60
tcttgcgccg	cctctggctt	caacatcgag	gataacctaca	tccactgggt	gcggcaggcc	120
cctggcaagg	gcctggaatg	ggtcgctaga	atctacccta	ccaacggcta	caccagatac	180
gccgactctg	taaagggcag	attcaccatc	tctgccgata	catctaagaa	caccgcctac	240
ctgcagatga	actccctgag	agccgaggac	accgccgtgt	actactgctc	ccggtggggc	300
ggtgacggct	tttacgccat	ggactactgg	ggacaaggca	cacttgttac	ggtgtcctct	360
ggaggcggcg	gctccggcgg	cggcggctct	ggcggaggcg	gctctggcgg	cggcggatct	420
gatatccaga	tgaccagtc	tcctagctcc	ctctccgcct	ccgtgggcga	cagagtgaca	480
atcacctgca	gagcttctca	ggacgtgaac	accgctgtgg	cctggtacca	gcagaagcct	540
ggcaaggccc	ctaagctgct	gatctactct	gcttcttacc	tgtactccgg	cgtgcccagc	600
cggttctccg	gctctcggtc	cggcaccgac	ttcactctga	ccatctccag	cctgcagcct	660
gaagatttcg	ccacctacta	ctgccagcag	cactacacca	cccctcccac	cttcggccag	720
ggcaccaaag	tggagatcaa	gggcgagccc	aagtcctccg	ataaaacca	cacctgtcct	780
ccttgccctg	cccctgaact	actgggcggc	ccttctgtgt	tcctgttccc	tcctaagccc	840
aaggacaccc	tgatgatctc	tagaaccct	gaagtgacct	gcgtggtggt	ggatgtgtct	900
cacgaggacc	ctgagggtcaa	gttcaactgg	tacgtggacg	gcgtggaagt	gcataacgcc	960
aagaccaagc	ctagagaaga	gcagtacaac	tccacctaca	gagtgggtctc	cgtgctgacc	1020
gtgctgcacc	aggactggct	gaacggcaaa	gagtacaagt	gcaaggtgtc	caacaaggct	1080
ctgcctgctc	ctatcgagaa	gacaatctcc	aaggccaaag	gccagcctcg	ggagcctcag	1140
gtgtacaccc	tgctctcttg	tagagaggaa	atgaccaaga	accaggtgtc	tctgtggtgc	1200
ctggtgaagg	gcttctaccc	atccgacatc	gccgtcgagt	gggagtccaa	cggacagccc	1260
gagaacaact	acaagactac	cccacctgtg	ctggactccg	atggctcctt	cttcctgtac	1320
tccaagctga	ccgtggacaa	gtccagatgg	cagcagggca	acgtgttctc	ctgctccgtg	1380
atgcacgagg	ccctgcacaa	ccactacacc	cagaaatccc	tgtctctgtc	ccctggcaag	1440
tga						1443

<210> 13

<211> 449
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of anti-Her2-domain2-HC-Fc

<400> 13

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1			5					10					15		
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Thr	Asp	Tyr
		20					25					30			
Thr	Met	Asp	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35				40					45				
Ala	Asp	Val	Asn	Pro	Asn	Ser	Gly	Gly	Ser	Ile	Tyr	Asn	Gln	Arg	Phe
	50				55				60						
Lys	Gly	Arg	Phe	Thr	Leu	Ser	Val	Asp	Arg	Ser	Lys	Asn	Thr	Leu	Tyr
65					70				75					80	
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85					90					95		
Ala	Arg	Asn	Leu	Gly	Pro	Ser	Phe	Tyr	Phe	Asp	Tyr	Trp	Gly	Gln	Gly
		100					105					110			
Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe
	115						120					125			
Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu
	130					135					140				
Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp
145					150				155					160	
Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu
			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	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro
225					230					235				240	
Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser
			245						250					255	
Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp
			260					265						270	
Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn
	275						280					285			
Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val
	290					295					300				
Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu
305					310					315				320	
Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys
			325						330					335	
Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Cys	Thr
		340						345					350		
Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Ser

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

<210> 14

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-domain2-HC-Fc

<400> 14

gaagtgcagc	tggttgaatc	tggcggcgga	ttggttcagc	ctggcggatc	tctgagactg	60
tcttgtgccg	cctctggcct	caccttcacc	gactacacca	tggactgggt	ccgacaggct	120
cctggcaaag	gactggaatg	ggtcgccgac	gtgaacccta	attccggcgg	ctccatctac	180
aaccagcggg	tcaagggcag	attcaccttg	tccgtggacc	ggtctaagaa	caccctgtac	240
ctgcagatga	actccctgag	agccgaggac	accgccgtgt	actactgcgc	cagaaacctg	300
ggaccttcct	tctacttcga	ctactggggc	cagggcaccc	tggtcacagt	ttcttccgct	360
tccaccaagg	gaccagcgt	gttccctctg	gctccttcca	gcaagtctac	ctctggcgga	420
acagctgctc	tgggctgcct	ggtcaaggac	tactttcctg	agcctgtgac	cgtgtcctgg	480
aactctggcg	ctctgacatc	tggcgtgcac	acctttccag	ctgtgctgca	gtcctccggc	540
ctgtactctc	tgtcctctgt	cgtgaccgtg	ccttccagct	ctctgggaac	ccagacctac	600
atctgcaatg	tgaaccacaa	gccttccaac	accaaggtgg	acaagaaggt	ggaacccaag	660
tcctgcgaca	agaccacac	ctgtcctcca	tgtcctgctc	cagaactgct	cggcggacct	720
tccgtgttcc	tgtttcctcc	aaagcctaag	gataccctga	tgatctctcg	gacccttgaa	780
gtgacctgcg	tggtgggtgga	tgtgtctcac	gaggatcccg	aagtgaagtt	caattggtac	840
gtggacggcg	tggaagtgca	caacgccaag	accaagccta	gagaggaaca	gtacaactcc	900
acctacagag	tggtgtccgt	gctgaccgtg	ctgcaccagg	attggctgaa	cggcaaagag	960
tacaagtgca	aggtgtccaa	caaggccctg	cctgctccta	tcgaaaagac	catctccaag	1020
gccaaagggc	agcctcgggg	acctcaagtc	tgtaccctgc	ctcctagccg	ggaagagatg	1080
accaagaacc	aggtgtccct	gtcctgtgcc	gtgaagggtc	tctacccttc	cgatatcgcc	1140
gtggaatggg	agagcaatgg	ccagcctgag	aacaactaca	agacaacccc	tcctgtgctg	1200
gactccgacg	gctcattctt	cctgggtgtcc	aagctgacag	tggacaagtc	cagatggcag	1260
cagggcaacg	tgttctcctg	ctccgtgatg	cacgaggccc	tgcacaacag	gttcaccag	1320
aagtcctctg	ctctgagccc	cggcaaatga				1350

<210> 15

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence of anti-Her2-domain2-LC

<400> 15

```

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1           5           10           15
Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Ile 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 Tyr Arg Tyr Thr 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 Ile Tyr 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> 16

<211> 645

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-domain2-LC

<400> 16

```

gatatccaga tgaccagtc tccttcagc ctgtctgcct ctgtgggcga cagagtgacc      60
atcacatgca aggcctctca ggacgtgtcc atcggcgtgg catggtatca gcagaagcct      120
ggcaaggccc ctaagctgct gatctactcc gcctcctaca gatacacagg cgtgccctcc      180
agattctccg gctctggctc tggcacagac tttaccctga caatctccag cctgcagcct      240
gaggacttcg ccacctacta ctgccagcag tactacatct acccctacac cttcggccag      300
ggcaccaagg tggaaatcaa gagaaccgtg gccgctcctt ccgtgttcat cttccacct      360
tccgacgagc agctgaagtc tggcaccgct tctgtcgtgt gcctgctgaa caattctac      420
cctcgggaag ccaaggtgca gtggaaggtg gacaatgccc tgcagtccgg caactccaa      480
gagtcgtgta ccgagcagga ctccaaggac agcacctata gcctgtcctc cacactgacc      540
ctgtccaagg ccgactacga gaagcacaag gtgtacgcct gcgaagtgac ccatcagggc      600
ctgtctagtc ccgtgaccaa gtctttcaac cggggcgagt gttga      645

```

<210> 17
 <211> 481
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence of anti-Her2-scFv-VL-VH-Fc

<400> 17
 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 Asn 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 Arg 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 Tyr Thr Thr Pro Pro
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110
 Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Glu
 115 120 125
 Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser
 130 135 140
 Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Lys Asp Thr Tyr
 145 150 155 160
 Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
 165 170 175
 Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg Tyr Ala Asp Ser Val Lys
 180 185 190
 Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu
 195 200 205
 Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser
 210 215 220
 Arg Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln Gly
 225 230 235 240
 Thr Leu Val Thr Val Ser Ser Ala Ala Glu Pro Lys Ser Ser Asp Lys
 245 250 255
 Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
 260 265 270
 Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 275 280 285
 Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 290 295 300
 Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
 305 310 315 320
 Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
 325 330 335
 Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu

<210> 19

<211> 448

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence of anti-Her2-domain2-HC-Fc-2

<400> 19

```

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

```

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

<210> 20

<211> 1344

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence of anti-Her2-domain2-HC-Fc-2

<400> 20

gaggtgcagc	tggtcgagtc	tggaggaggt	ctggtgcagc	ctggaggctc	tctgaggctg	60
tcctgtgccg	cttctggcct	caccttcacc	gactacacca	tggactgggt	gcggcaggcc	120
cctggcaagg	ggctggaatg	ggtggccgac	gtgaatccta	actctggcgg	ctccatctac	180
aaccagcggg	tcaagggcag	attcacactg	tccgtggaca	gatccaagaa	caccctgtac	240
ctgcagatga	acagcctgag	agccgaggac	accgctgtgt	actactgcgc	ccggaacctg	300
ggacccagct	tctacttcga	ctactggggc	caaggcaccc	tggtcaccgt	gtccagcgcc	360
agcaccaaag	gccctagtgt	ctttcctctg	gctcccagct	ctaagtccac	ctccggcggc	420
accgctgctc	tgggctgtct	ggtgaaggac	tatttcctctg	agcctgtgac	cgtctcttgg	480
aactccggcg	ctctgacctc	tggcgtgcat	acctttcccg	ccgtgctgca	gtccagcggc	540
ctgtactctt	tgtcttctgt	cgtgacagtg	ccttcttctc	ctctcggcac	acagacctac	600
atctgcaacg	tgaaccacaa	gccatctaac	accaaagtgg	acaagaaggt	ggaacccaag	660
agctgcgaca	aaaccacac	ctgtccacct	tgtcctgccc	ctgagctgct	gggcggacct	720
tccgtgttcc	tgttcccccc	taagcctaag	gataactga	tgatctccag	aacccccgag	780
gtgacctgcg	tggtggtgga	tgtttcccat	gaagatcctg	aagtgaagtt	caactggtac	840
gtggacggcg	tggaaagtga	caacgccaag	accaagccta	gagaggaaca	gtacaactct	900
acctacagag	tggtttctgt	gctcactgtg	ctgcaccagg	attggctgaa	cggcaaagag	960
tacaagtgca	aggtgtccaa	caaggccctg	cctgctccta	tcgagaagac	catcagcaag	1020
gctaagggcc	agcctcgcga	acctcagggt	tacgtgtatc	ctccttcccg	ggacgagctg	1080
accaagaacc	aagtgtctct	gacctgcctg	gtgaaaggct	tctaccctc	cgacatcgcc	1140
gtggaatggg	agtccaatgg	ccagcccag	aacaactaca	agaccacccc	tccagtgtctg	1200
gactccgatg	gctccttcgc	cctggtgtcc	aagctgacag	tagacaagtc	tagatggcag	1260
cagggcaacg	tgttctcctg	ctccgtgatg	cacgaggccc	tgcaaatag	attcacacag	1320
aagtcctgt	ctctgtcccc	tggc				1344

<210> 21

<211> 480

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence of b-anti-Her2-scFv-VH-K30E-Fc

<400> 21

```
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 Asn Ile Glu Asp Thr
20          25          30
Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35          40          45
Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg 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 Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln
100          105          110
Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115          120          125
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
130          135          140
Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
145          150          155          160
Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala Val Ala Trp Tyr
165          170          175
Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser
180          185          190
Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly
195          200          205
Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
210          215          220
Thr Tyr Tyr Cys Gln Gln His Tyr Thr Thr Pro Pro Thr Phe Gly Gln
225          230          235          240
Gly Thr Lys Val Glu Ile Lys Gly Glu Pro Lys Ser Ser Asp Lys Thr
245          250          255
His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
260          265          270
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
275          280          285
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
290          295          300
Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
305          310          315          320
Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
325          330          335
Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
340          345          350
Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
355          360          365
Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
370          375          380
Pro Pro Cys Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Trp Cys
```

385		390		395		400									
Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser
				405					410					415	
Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp
			420					425					430		
Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser
		435					440				445				
Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala
	450					455					460				
Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys
465					470				475					480	

<210> 22
 <211> 1443
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Nucleotide sequence of b-anti-Her2-scFv-VH-K30E-Fc

<400> 22

gaggtgcaac	tggtggaatc	cggcggggga	ctggtccaac	ctggaggag	cctgaggctg	60
tcttgcgccg	cctctggcct	caacatcgag	gataacctaca	tccactgggt	gcggcaggcc	120
cctggcaagg	gcctggaatg	ggtcgctaga	atctacccta	ccaacggcta	caccagatac	180
gccgactctg	taaagggcag	attcaccatc	tctgccgata	catctaagaa	caccgcctac	240
ctgcagatga	actcccctgag	agccgaggac	accgccgtgt	actactgctc	ccggtggggc	300
ggtgacggct	tttacgccat	ggactactgg	ggacaaggca	cacttggttac	ggtgtcctct	360
ggaggcggcg	gctccggcgg	cggcggctct	ggcggaggcg	gctctggcgg	cggcggatct	420
gatatccaga	tgaccagtc	tcctagctcc	ctctccgcct	ccgtgggcga	cagagtgaca	480
atcacctgca	gagcttctca	ggacgtgaac	accgctgtgg	cctggtacca	gcagaagcct	540
ggcaaggccc	ctaagctgct	gatctactct	gcttccttcc	tgtactccgg	cgtgcccagc	600
cgttctccg	gctctcggct	cggcaccgac	ttcactctga	ccatctccag	cctgcagcct	660
gaagatttcg	ccacctacta	ctgccagcag	cactacacca	cccctcccac	cttcggccag	720
ggcaccaaag	tggagatcaa	gggcgagccc	aagtcctccg	ataaaacca	cacctgtcct	780
ccttgccctg	cccctgaact	actgggcggc	ccttctgtgt	tcctgttccc	tcctaagccc	840
aaggacacc	tgatgatctc	tagaaccct	gaagtgacct	gcgtgggtgt	ggatgtgtct	900
cacgaggacc	ctgaggtcaa	gttcaactgg	tacgtggacg	gcgtggaagt	gcataacgcc	960
aagaccaagc	ctagagaaga	gcagtacaac	tccacctaca	gagtgggtctc	cgtgctgacc	1020
gtgctgcacc	aggactggct	gaacggcaaa	gagtacaagt	gcaagggtgtc	caacaaggct	1080
ctgcctgctc	ctatcgagaa	gacaatctcc	aaggccaaag	gccagcctcg	ggagcctcag	1140
gtgtacaccc	tgcttccttg	tagagaggaa	atgaccaaga	accagggtgtc	tctgtggtgc	1200
ctggtgaagg	gcttctaccc	atccgacatc	gccgtcgagt	gggagtccaa	cggacagccc	1260
gagaacaact	acaagactac	cccacctgtg	ctggactccg	atggctcctt	cttcctgtac	1320
tccaagctga	ccgtggacaa	gtccagatgg	cagcagggca	acgtgttctc	ctgctccgtg	1380
atgcacgagg	ccctgcacaa	ccactacacc	cagaaatccc	tgtctctgtc	ccctggcaag	1440
tga						1443

<210> 23
 <211> 480
 <212> PRT
 <213> Artificial Sequence

<220>

<400>	23														
Glu 1	Val	Gln	Leu	Val 5	Glu	Ser	Gly	Gly	Gly 10	Leu	Val	Gln	Pro	Gly 15	Gly
Ser	Leu	Arg	Leu 20	Ser	Cys	Ala	Ala	Ser 25	Gly	Phe	Asn	Ile	Lys 30	Asp	Thr
Tyr	Ile	His 35	Trp	Val	Arg	Gln	Ala 40	Pro	Gly	Lys	Gly	Leu 45	Glu	Trp	Val
Ala	Arg 50	Ile	Tyr	Pro	Thr	Asn 55	Gly	Tyr	Thr	Arg	Tyr 60	Ala	Asp	Ser	Val
Lys 65	Gly	Arg	Phe	Thr	Ile 70	Ser	Ala	Asp	Thr	Ser 75	Lys	Asn	Thr	Ala	Tyr 80
Leu	Gln	Met	Asn	Ser 85	Leu	Arg	Ala	Glu	Asp 90	Thr	Ala	Val	Tyr	Tyr 95	Cys
Ser	Arg	Trp	Gly 100	Gly	Asp	Gly	Phe	Tyr 105	Ala	Met	Asp	Tyr	Trp 110	Gly	Gln
Gly	Thr	Leu 115	Val	Thr	Val	Ser	Ser 120	Gly	Gly	Gly	Gly	Ser 125	Gly	Gly	Gly
Gly	Ser 130	Gly	Gly	Gly	Gly	Ser 135	Gly	Gly	Gly	Gly	Ser 140	Asp	Ile	Gln	Met
Thr 145	Gln	Ser	Pro	Ser	Ser 150	Leu	Ser	Ala	Ser	Val 155	Gly	Asp	Arg	Val	Thr 160
Ile	Thr	Cys	Arg	Ala 165	Ser	Gln	Asp	Val	Asn 170	Thr	Ala	Val	Ala	Trp 175	Tyr
Gln	Gln	Lys	Pro 180	Gly	Lys	Ala	Pro	Lys 185	Leu	Leu	Ile	Tyr	Ser 190	Ala	Ser
Tyr	Leu 195	Tyr	Ser	Gly	Val	Pro	Ser 200	Arg	Phe	Ser	Gly	Ser 205	Arg	Ser	Gly
Thr	Asp 210	Phe	Thr	Leu	Thr	Ile 215	Ser	Ser	Leu	Gln	Pro 220	Glu	Asp	Phe	Ala
Thr 225	Tyr	Tyr	Cys	Gln	Gln 230	His	Tyr	Thr	Thr	Pro 235	Pro	Thr	Phe	Gly	Gln 240
Gly	Thr	Lys	Val	Glu 245	Ile	Lys	Gly	Glu	Pro 250	Lys	Ser	Ser	Asp	Lys 255	Thr
His	Thr	Cys	Pro 260	Pro	Cys	Pro	Ala	Pro 265	Glu	Leu	Leu	Gly	Gly 270	Pro	Ser
Val	Phe	Leu	Phe 275	Pro	Pro	Lys	Pro 280	Lys	Asp	Thr	Leu	Met 285	Ile	Ser	Arg
Thr	Pro 290	Glu	Val	Thr	Cys	Val 295	Val	Val	Asp	Val	Ser 300	His	Glu	Asp	Pro
Glu 305	Val	Lys	Phe	Asn	Trp 310	Tyr	Val	Asp	Gly	Val 315	Glu	Val	His	Asn	Ala 320
Lys	Thr	Lys	Pro	Arg 325	Glu	Glu	Gln	Tyr	Asn 330	Ser	Thr	Tyr	Arg	Val 335	Val
Ser	Val	Leu	Thr 340	Val	Leu	His	Gln	Asp 345	Trp	Leu	Asn	Gly	Lys 350	Glu	Tyr
Lys	Cys	Lys 355	Val	Ser	Asn	Lys	Ala 360	Leu	Pro	Ala	Pro	Ile 365	Glu	Lys	Thr
Ile	Ser 370	Lys	Ala	Lys	Gly	Gln 375	Pro	Arg	Glu	Pro	Gln 380	Val	Tyr	Thr	Leu
Pro 385	Pro	Cys	Arg	Glu	Glu 390	Met	Thr	Lys	Asn 395	Gln	Val	Ser	Leu	Trp	Cys 400

<400> 25
 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 Asn Ile Lys Asp Thr
 20 25 30
 Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg 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 Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125
 Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
 130 135 140
 Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
 145 150 155 160
 Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala Val Ala Trp Tyr
 165 170 175
 Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser
 180 185 190
 Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly
 195 200 205
 Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
 210 215 220
 Thr Tyr Tyr Cys Gln Gln His Tyr Thr Thr Pro Pro Thr Phe Gly Gln
 225 230 235 240
 Gly Thr Lys Val Glu Ile Lys Gly Glu Pro Lys Ser Ser Asp Lys Thr
 245 250 255
 His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 260 265 270
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 275 280 285
 Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 290 295 300
 Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 305 310 315 320
 Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 325 330 335
 Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 340 345 350
 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 355 360 365
 Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 370 375 380
 Pro Pro Cys Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Trp Cys
 385 390 395 400
 Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser

				405				410					415		
Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp
			420					425					430		
Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser
		435					440					445			
Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala
	450					455					460				
Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys
465					470					475					480

<210>	26
<211>	1440
<212>	DNA
<213>	Artificial Sequence

<220>
<223> Nucleotide sequence of anti-Her2-scFv-VH-VL-Fc

<400>	26						
gaggtgcaac	tggtggaatc	cggcgggggga	ctggtccaac	ctggagggag	cctgcggctg		60
tcttgcgccg	cctctggctt	caacatcaag	gatacctaca	tccactgggt	gcggcaggcc		120
cctggcaagg	gcctggaatg	ggtcgctaga	atctacccta	ccaacggcta	caccagatac		180
gccgactctg	taaagggcag	attcaccatc	tctgccgata	catctaagaa	caccgcctac		240
ctgcagatga	actccctgag	agccgaggac	accgccgtgt	actactgtct	ccggtggggc		300
ggtgacggct	tttacgccat	ggactactgg	ggacaaggca	cacttgttac	ggtgtcctct		360
ggaggcggcg	gctccggcgg	cggcggctct	ggcggaggcg	gctctggcgg	cggcggatct		420
gatatccaga	tgaccagtc	tcctagctcc	ctctccgcct	ccgtgggcga	cagagtgaca		480
atcacctgca	gagcttctca	ggacgtgaac	accgctgtgg	cctggtacca	gcagaagcct		540
ggcaaggccc	ctaagctgct	gatctactct	gcttccttcc	tgtactccgg	cgtgcccagc		600
cggttctccg	gctctcggtc	cggcaccgac	ttcactctga	ccatctccag	cctgcagcct		660
gaagatttcg	ccacctacta	ctgccagcag	cactacacca	cccctcccac	cttcggccag		720
ggcaccaaaag	tggagatcaa	gggcgagccc	aagtcctccg	ataaaaacca	cacctgtcct		780
ccttgccctg	cccctgaact	actgggcggc	ccttctgtgt	tcctgttccc	tcctaagccc		840
aaggacaccc	tgatgatctc	tagaaccctt	gaagtgacct	gcgtggtggt	ggatgtgtct		900
cacgagggacc	ctgagggtcaa	gttcaactgg	tacgtggacg	gcgtggaagt	gcataacgcc		960
aagaccaagc	ctagagaaga	gcagtacaac	tccacctaca	gagtgggtctc	cgtgctgacc		1020
gtgctgcacc	aggactggct	gaacggcaaa	gagtacaagt	gcaagggtgtc	caacaaggct		1080
ctgcctgtct	ctatcgagaa	gacaatctcc	aaggccaaaag	gccagcctcg	ggagcctcag		1140
gtgtacaccc	tgctctcttg	tagagaggaa	atgaccaaga	accagggtgtc	tctgtggtgc		1200
ctggtgaagg	gcttctaccc	atccgacatc	gccgtcgagt	gggagtccaa	cggacagccc		1260
gagaacaact	acaagactac	cccacctgtg	ctggactccg	atggctcctt	cttcctgtac		1320
tccaagctga	ccgtggacaa	gtccagatgg	cagcaggggca	acgtgttctc	ctgctccgtg		1380
atgcacgagg	ccctgcacaa	ccactacacc	cagaaaatccc	tgtctctgtc	ccctggcaag		1440

$\langle 210 \rangle$	27
$\langle 211 \rangle$	10
$\langle 212 \rangle$	PRT
$\langle 213 \rangle$	Artificial Sequence

```
<220>
<221>  UNSURE
<222>  (5)
<223>  Xaa is K or E
```

<220>
<223> Heavy chain CDR1 of a first antigen-binding fragment

<400> 27
Gly Phe Asn Ile Xaa Asp Thr Tyr Ile His
1 5 10

<210> 28
<211> 17
<212> PRT
<213> Mus musculus

<220>
<223> Heavy chain CDR2 of a first antigen-binding fragment

<400> 28
Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg Tyr Ala Asp Ser Val Lys
1 5 10 15
Gly

<210> 29
<211> 12
<212> PRT
<213> Mus musculus

<220>
<223> Heavy chain CDR3 of a first antigen-binding fragment

<400> 29
Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp
1 5 10

<210> 30
<211> 13
<212> PRT
<213> Mus musculus

<220>
<223> Light chain CDR1 of a first antigen-binding fragment

<400> 30
Cys Arg Ala Ser Gln Asp Val Asn Thr Ala Val Ala Trp
1 5 10

<210> 31
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain CDR2 of a first antigen-binding fragment

<400> 31

Ser Ala Ser Tyr Leu Tyr Ser
1 5

<210> 32

<211> 9

<212> PRT

<213> Mus musculus

<220>

<223> Light chain CDR3 of a first antigen-binding fragment

<400> 32

Gln Gln His Tyr Thr Thr Pro Pro Thr
1 5

<210> 33

<211> 7

<212> PRT

<213> Mus musculus

<220>

<223> Light chain CDR2 of a first antigen-binding fragment

<400> 33

Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 34

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (4)

<223> Xaa is F or Y

<220>

<223> Light chain CDR2 of a first antigen-binding fragment

<400> 34

Ser Ala Ser Xaa Leu Tyr Ser
1 5

<210> 35
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of heavy chain variable region of a first antigen-binding fragment

<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 Asn Ile Glu Asp Thr
          20           25           30
Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
          35           40           45
Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg 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 Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln
          100          105          110
Gly Thr Leu Val Thr Val Ser Ser
          115          120

```

<210> 36
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of light chain variable region of a first antigen-binding fragment

<400> 36

```

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 Asn 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 Arg 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 Tyr Thr Thr Pro Pro
          85           90           95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
          100          105

```

<210> 37
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of heavy chain variable region of a second antigen-binding fragment

<400> 37

```

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

```

<210> 38
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of light chain variable region of a second antigen-binding fragment

<400> 38

```

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1          5          10          15
Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Ile 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 Tyr Arg Tyr Thr 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 Ile Tyr Pro Tyr
85          90          95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100         105

```

<210> 39
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of light chain variable region of a first antigen-binding fragment

<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 Asp Val Asn 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 Arg 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 Tyr Thr Thr Pro Pro
          85           90           95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
          100           105

```

<210> 40
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence of heavy chain variable region of a first antigen-binding fragment

<400> 40

```

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 Asn Ile Lys Asp Thr
          20           25           30
Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
          35           40           45
Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg 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 Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln
          100           105           110
Gly Thr Leu Val Thr Val Ser Ser
          115           120

```

<210> 41
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> UNSURE
 <222> (30)
 <223> Xaa is K or E

<220>
 <223> Amino acid sequence of heavy chain variable region of a first antigen-binding fragment

<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 Asn Ile Xaa Asp Thr
 20 25 30
 Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg 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 Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 42
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> UNSURE
 <222> (53)
 <223> Xaa is F or Y

<220>
 <223> Amino acid sequence of light chain variable region of a first antigen-binding fragment

<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 Asp Val Asn 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 Xaa Leu Tyr Ser 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 Phe Ala Thr Tyr Tyr Cys Gln Gln His Tyr Thr Thr Pro Pro
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 43
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain CDR1 of a first antigen-binding fragment

<400> 43
 Gly Phe Asn Ile Glu Asp Thr Tyr Ile His
 1 5 10

<210> 44
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 44
 Gly Phe Asn Ile Lys Asp Thr Tyr Ile His
 1 5 10

<210> 45
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 45
 Gly Phe Thr Phe Thr Asp Tyr Thr Met Asp
 1 5 10

<210> 46
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 46
 Asp Val Asn Pro Asn Ser Gly Gly Ser Ile Tyr Asn Gln Arg Phe Lys
 1 5 10 15
 Gly

<210> 47
 <211> 10
 <212> PRT
 <213> Mus musculus

<400> 47
 Asn Leu Gly Pro Ser Phe Tyr Phe Asp Tyr
 1 5 10

<210> 48
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 48
 Lys Ala Ser Gln Asp Val Ser Ile Gly Val Ala
 1 5 10

<210> 49
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 49
 Ser Ala Ser Tyr Arg Tyr Thr
 1 5

<210> 50
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 50
 Gln Gln Tyr Tyr Ile Tyr Pro Tyr Thr
 1 5

<210> 51
 <211> 475
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence of a bivalent monospecific antibody

<400> 51
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Glu Asp Thr
 20 25 30
 Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg 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 Trp Gly Gly	Asp Gly Phe Tyr Ala Met	Asp Tyr Trp Gly Gln		
	100	105	110	
Gly Thr Leu Val Thr	Val Ser Ser Gly Gly Gly	Gly Ser Gly Gly Gly		
	115	120	125	
Gly Ser Gly Gly Gly	Gly Ser Asp Ile Gln Met	Thr Gln Ser Pro Ser		
	130	135	140	
Ser Leu Ser Ala Ser	Val Gly Asp Arg Val Thr	Ile Thr Cys Arg Ala		
	145	150	155	160
Ser Gln Asp Val Asn	Thr Ala Val Ala Trp Tyr	Gln Gln Lys Pro Gly		
	165	170	175	
Lys Ala Pro Lys Leu	Leu Ile Tyr Ser Ala Ser	Tyr Leu Tyr Ser Gly		
	180	185	190	
Val Pro Ser Arg Phe	Ser Gly Ser Arg Ser Gly	Thr Asp Phe Thr Leu		
	195	200	205	
Thr Ile Ser Ser Leu	Gln Pro Glu Asp Phe Ala	Thr Tyr Tyr Cys Gln		
	210	215	220	
Gln His Tyr Thr Thr	Pro Pro Thr Phe Gly Gln	Gly Thr Lys Val Glu		
	225	230	235	240
Ile Lys Gly Glu Pro	Lys Ser Ser Asp Lys Thr	His Thr Cys Pro Pro		
	245	250	255	
Cys Pro Ala Pro Glu	Leu Leu Gly Gly Pro Ser	Val Phe Leu Phe Pro		
	260	265	270	
Pro Lys Pro Lys Asp	Thr Leu Met Ile Ser Arg	Thr Pro Glu Val Thr		
	275	280	285	
Cys Val Val Val Asp	Val Ser His Glu Asp Pro	Glu Val Lys Phe Asn		
	290	295	300	
Trp Tyr Val Asp Gly	Val Glu Val His Asn Ala	Lys Thr Lys Pro Arg		
	305	310	315	320
Glu Glu Gln Tyr Asn	Ser Thr Tyr Arg Val Val	Ser Val Leu Thr Val		
	325	330	335	
Leu His Gln Asp Trp	Leu Asn Gly Lys Glu Tyr	Lys Cys Lys Val Ser		
	340	345	350	
Asn Lys Ala Leu Pro	Ala Pro Ile Glu Lys Thr	Ile Ser Lys Ala Lys		
	355	360	365	
Gly Gln Pro Arg Glu	Pro Gln Val Tyr Thr Leu	Pro Pro Ser Arg Glu		
	370	375	380	
Glu Met Thr Lys Asn	Gln Val Ser Leu Thr Cys	Leu Val Lys Gly Phe		
	385	390	395	400
Tyr Pro Ser Asp Ile	Ala Val Glu Trp Glu Ser	Asn Gly Gln Pro Glu		
	405	410	415	
Asn Asn Tyr Lys Thr	Thr Pro Pro Val Leu Asp	Ser Asp Gly Ser Phe		
	420	425	430	
Phe Leu Tyr Ser Lys	Leu Thr Val Asp Lys Ser	Arg Trp Gln Gln Gly		
	435	440	445	
Asn Val Phe Ser Cys	Ser Val Met His Glu Ala	Leu His Asn His Tyr		
	450	455	460	
Thr Gln Lys Ser Leu	Ser Leu Ser Pro Gly Lys			
	465	470	475	

<210> 52
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino acid sequence of linker peptide

<400> 52
Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly
1 5 10

<210> 53
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino acid sequence of linker peptide

<400> 53
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 54
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino acid sequence of linker peptide

<400> 54
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15
Gly Gly Gly Ser
20

<210> 55
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino acid sequence of linker peptide

<400> 55
Gly Gly Gly Pro Gly Lys Arg
1 5