

SEQUENCE LISTING

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<120> MULTI-FUNCTIONAL FUSION PROTEINS AND USES THEREOF

<130> 205961-7028W01(00150)

<150> 62/789,212

<151> 2019-01-07

<160> 69

<170> PatentIn version 3.5

<210> 1

<211> 144

<212> PRT

<213> Homo sapiens

<400> 1

Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr Phe
 1 5 10 15

Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp Asn Ala Thr Phe Thr
 20 25 30

Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr Arg
 35 40 45

Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu Asp
 50 55 60

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

Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn Asp
 85 90 95

Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala Gln

100

105

110

Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg Ala
 115 120 125

Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly Gln
 130 135 140

<210> 2

<211> 144

<212> PRT

<213> Homo sapiens

<400> 2

Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr Phe
 1 5 10 15

Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp Asn Ala Thr Phe Thr
 20 25 30

Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe His Val Val Trp His Arg
 35 40 45

Glu Ser Pro Ser Gly Gln Thr Asp Thr Leu Ala Ala Phe Pro Glu Asp
 50 55 60

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

Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn Asp
 85 90 95

Ser Gly Thr Tyr Val Cys Gly Val Ile Ser Leu Ala Pro Lys Ile Gln
 100 105 110

Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg Ala
 115 120 125

Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly Gln
130 135 140

<210> 3
<211> 120
<212> PRT
<213> Homo sapiens

<400> 3

Met Met Thr Gly Thr Ile Glu Thr Thr Gly Asn Ile Ser Ala Glu Lys
1 5 10 15

Gly Gly Ser Ile Ile Leu Gln Cys His Leu Ser Ser Thr Thr Ala Gln
20 25 30

Val Thr Gln Val Asn Trp Glu Gln Gln Asp Gln Leu Leu Ala Ile Cys
35 40 45

Asn Ala Asp Leu Gly Trp His Ile Ser Pro Ser Phe Lys Asp Arg Val
50 55 60

Ala Pro Gly Pro Gly Leu Gly Leu Thr Leu Gln Ser Leu Thr Val Asn
65 70 75 80

Asp Thr Gly Glu Tyr Phe Cys Ile Tyr His Thr Tyr Pro Asp Gly Thr
85 90 95

Tyr Thr Gly Arg Ile Phe Leu Glu Val Leu Glu Ser Ser Val Ala Glu
100 105 110

His Gly Ala Arg Phe Gln Ile Pro
115 120

<210> 4
<211> 498
<212> PRT
<213> Homo sapiens

<400> 4

Val Trp Glu Lys Thr Val Asn Thr Glu Glu Asn Val Tyr Ala Thr Leu
1 5 10 15

Gly Ser Asp Val Asn Leu Thr Cys Gln Thr Gln Thr Val Gly Phe Phe
20 25 30

Val Gln Met Gln Trp Ser Lys Val Thr Asn Lys Ile Asp Leu Ile Ala
35 40 45

Val Tyr His Pro Gln Tyr Gly Phe Tyr Cys Ala Tyr Gly Arg Pro Cys
50 55 60

Glu Ser Leu Val Thr Phe Thr Glu Thr Pro Glu Asn Gly Ser Lys Trp
65 70 75 80

Thr Leu His Leu Arg Asn Met Ser Cys Ser Val Ser Gly Arg Tyr Glu
85 90 95

Cys Met Leu Val Leu Tyr Pro Glu Gly Ile Gln Thr Lys Ile Tyr Asn
100 105 110

Leu Leu Ile Gln Thr His Val Thr Ala Asp Glu Trp Asn Ser Asn His
115 120 125

Thr Ile Glu Ile Glu Ile Asn Gln Thr Leu Glu Ile Pro Cys Phe Gln
130 135 140

Asn Ser Ser Ser Lys Ile Ser Ser Glu Phe Thr Tyr Ala Trp Ser Val
145 150 155 160

Glu Asn Ser Ser Thr Asp Ser Trp Val Leu Leu Ser Lys Gly Ile Lys
165 170 175

Glu Asp Asn Gly Thr Gln Glu Thr Leu Ile Ser Gln Asn His Leu Ile
180 185 190

Ser Asn Ser Thr Leu Leu Lys Asp Arg Val Lys Leu Gly Thr Asp Tyr
195 200 205

Arg Leu His Leu Ser Pro Val Gln Ile Phe Asp Asp Gly Arg Lys Phe
210 215 220

Ser Cys His Ile Arg Val Gly Pro Asn Lys Ile Leu Arg Ser Ser Thr
225 230 235 240

Thr Val Lys Val Phe Ala Lys Pro Glu Ile Pro Val Ile Val Glu Asn
245 250 255

Asn Ser Thr Asp Val Leu Val Glu Arg Arg Phe Thr Cys Leu Leu Lys
260 265 270

Asn Val Phe Pro Lys Ala Asn Ile Thr Trp Phe Ile Asp Gly Ser Phe
275 280 285

Leu His Asp Glu Lys Glu Gly Ile Tyr Ile Thr Asn Glu Glu Arg Lys
290 295 300

Gly Lys Asp Gly Phe Leu Glu Leu Lys Ser Val Leu Thr Arg Val His
305 310 315 320

Ser Asn Lys Pro Ala Gln Ser Asp Asn Leu Thr Ile Trp Cys Met Ala
325 330 335

Leu Ser Pro Val Pro Gly Asn Lys Val Trp Asn Ile Ser Ser Glu Lys
340 345 350

Ile Thr Phe Leu Leu Gly Ser Glu Ile Ser Ser Thr Asp Pro Pro Leu
355 360 365

Ser Val Thr Glu Ser Thr Leu Asp Thr Gln Pro Ser Pro Ala Ser Ser
370 375 380

Val Ser Pro Ala Arg Tyr Pro Ala Thr Ser Ser Val Thr Leu Val Asp
385 390 395 400

Val Ser Ala Leu Arg Pro Asn Thr Thr Pro Gln Pro Ser Asn Ser Ser
405 410 415

Met Thr Thr Arg Gly Phe Asn Tyr Pro Trp Thr Ser Ser Gly Thr Asp
420 425 430

Thr Lys Lys Ser Val Ser Arg Ile Pro Ser Glu Thr Tyr Ser Ser Ser
435 440 445

Pro Ser Gly Ala Gly Ser Thr Leu His Asp Asn Val Phe Thr Ser Thr
450 455 460

Ala Arg Ala Phe Ser Glu Val Pro Thr Thr Ala Asn Gly Ser Thr Lys
465 470 475 480

Thr Asn His Val His Ile Thr Gly Ile Val Val Asn Lys Pro Lys Asp
485 490 495

Gly Met

<210> 5
<211> 151
<212> PRT
<213> Homo sapiens

<400> 5

Met Gly His Arg Thr Leu Val Leu Pro Trp Val Leu Leu Thr Leu Cys
1 5 10 15

Val Thr Ala Gly Thr Pro Glu Val Trp Val Gln Val Arg Met Glu Ala
20 25 30

Thr Glu Leu Ser Ser Phe Thr Ile Arg Cys Gly Phe Leu Gly Ser Gly
35 40 45

Ser Ile Ser Leu Val Thr Val Ser Trp Gly Gly Pro Asn Gly Ala Gly
50 55 60

Gly Thr Thr Leu Ala Val Leu His Pro Glu Arg Gly Ile Arg Gln Trp
65 70 75 80

Ala Pro Ala Arg Gln Ala Arg Trp Glu Thr Gln Ser Ser Ile Ser Leu
85 90 95

Ile Leu Glu Gly Ser Gly Ala Ser Ser Pro Cys Ala Asn Thr Thr Phe
100 105 110

Cys Cys Lys Phe Ala Ser Phe Pro Glu Gly Ser Trp Glu Ala Cys Gly
115 120 125

Ser Leu Pro Pro Ser Ser Asp Pro Gly Leu Ser Ala Pro Pro Thr Pro
130 135 140

Ala Pro Ile Leu Arg Ala Asp
145 150

<210> 6
<211> 236
<212> PRT
<213> Homo sapiens

<400> 6

Glu Glu Val Leu Trp His Thr Ser Val Pro Phe Ala Glu Asn Met Ser
1 5 10 15

Leu Glu Cys Val Tyr Pro Ser Met Gly Ile Leu Thr Gln Val Glu Trp
20 25 30

Phe Lys Ile Gly Thr Gln Gln Asp Ser Ile Ala Ile Phe Ser Pro Thr
35 40 45

His Gly Met Val Ile Arg Lys Pro Tyr Ala Glu Arg Val Tyr Phe Leu
50 55 60

Asn Ser Thr Met Ala Ser Asn Asn Met Thr Leu Phe Phe Arg Asn Ala
65 70 75 80

Ser Glu Asp Asp Val Gly Tyr Tyr Ser Cys Ser Leu Tyr Thr Tyr Pro
85 90 95

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

Glu Ala Ala Val Pro Ser Asn Ser His Ile Val Ser Glu Pro Gly Lys
115 120 125

Asn Val Thr Leu Thr Cys Gln Pro Gln Met Thr Trp Pro Val Gln Ala
130 135 140

Val Arg Trp Glu Lys Ile Gln Pro Arg Gln Ile Asp Leu Leu Thr Tyr
145 150 155 160

Cys Asn Leu Val His Gly Arg Asn Phe Thr Ser Lys Phe Pro Arg Gln
165 170 175

Ile Val Ser Asn Cys Ser His Gly Arg Trp Ser Val Ile Val Ile Pro
180 185 190

Asp Val Thr Val Ser Asp Ser Gly Leu Tyr Arg Cys Tyr Leu Gln Ala
195 200 205

Ser Ala Gly Glu Asn Glu Thr Phe Val Met Arg Leu Thr Val Ala Glu
210 215 220

Gly Lys Thr Asp Asn Gln Tyr Thr Leu Phe Val Ala
225 230 235

<210> 7

<211> 330

<212> PRT

<213> Homo sapiens

<400> 7

Gln Asn Leu Phe Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala

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

Leu Gln Gly Leu Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys Glu
210 215 220

Ala Ile Gly Lys Pro Gln Pro Val Met Val Thr Trp Val Arg Val Asp
225 230 235 240

Asp Glu Met Pro Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile
245 250 255

Asn Asn Leu Asn Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser
260 265 270

Asn Ile Val Gly Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp
275 280 285

Pro Pro Thr Thr Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr Thr
290 295 300

Thr Thr Thr Thr Thr Ile Leu Thr Ile Ile Thr Asp Ser Arg Ala Gly
305 310 315 320

Glu Glu Gly Ser Ile Arg Ala Val Asp His
325 330

<210> 8
<211> 342
<212> PRT
<213> Homo sapiens

<400> 8

Pro Ile Ile Val Glu Pro His Val Thr Ala Val Trp Gly Lys Asn Val
1 5 10 15

Ser Leu Lys Cys Leu Ile Glu Val Asn Glu Thr Ile Thr Gln Ile Ser
20 25 30

Trp Glu Lys Ile His Gly Lys Ser Ser Gln Thr Val Ala Val His His
35 40 45

Pro Gln Tyr Gly Phe Ser Val Gln Gly Glu Tyr Gln Gly Arg Val Leu
50 55 60

Phe Lys Asn Tyr Ser Leu Asn Asp Ala Thr Ile Thr Leu His Asn Ile
65 70 75 80

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

Leu Gly Asn Ala Gln Ser Ser Thr Thr Val Thr Val Leu Val Glu Pro
100 105 110

Thr Val Ser Leu Ile Lys Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn
115 120 125

Glu Thr Val Ala Ala Ile Cys Ile Ala Ala Thr Gly Lys Pro Val Ala
130 135 140

His Ile Asp Trp Glu Gly Asp Leu Gly Glu Met Glu Ser Thr Thr Thr
145 150 155 160

Ser Phe Pro Asn Glu Thr Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe
165 170 175

Pro Thr Arg Phe Ala Arg Gly Arg Arg Ile Thr Cys Val Val Lys His
180 185 190

Pro Ala Leu Glu Lys Asp Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln
195 200 205

Tyr Ala Pro Glu Val Ser Val Thr Gly Tyr Asp Gly Asn Trp Phe Val
210 215 220

Gly Arg Lys Gly Val Asn Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro
225 230 235 240

Pro Phe Lys Ser Val Trp Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly
245 250 255

Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His Pro Leu Thr Phe
260 265 270

Asn Tyr Ser Gly Val Tyr Ile Cys Lys Val Thr Asn Ser Leu Gly Gln
275 280 285

Arg Ser Asp Gln Lys Val Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr
290 295 300

Thr Leu Gln Pro Thr Ile Gln Trp His Pro Ser Thr Ala Asp Ile Glu
305 310 315 320

Asp Leu Ala Thr Glu Pro Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu
325 330 335

Ala Thr Ile Lys Asp Asp
340

<210> 9
<211> 285
<212> PRT
<213> Homo sapiens

<400> 9

Ala Glu Pro His Ser Leu Arg Tyr Asn Leu Thr Val Leu Ser Trp Asp
1 5 10 15

Gly Ser Val Gln Ser Gly Phe Leu Thr Glu Val His Leu Asp Gly Gln
20 25 30

Pro Phe Leu Arg Cys Asp Arg Gln Lys Cys Arg Ala Lys Pro Gln Gly
35 40 45

Gln Trp Ala Glu Asp Val Leu Gly Asn Lys Thr Trp Asp Arg Glu Thr
50 55 60

Arg Asp Leu Thr Gly Asn Gly Lys Asp Leu Arg Met Thr Leu Ala His
65 70 75 80

Ile Lys Asp Gln Lys Glu Gly Leu His Ser Leu Gln Glu Ile Arg Val
85 90 95

Cys Glu Ile His Glu Asp Asn Ser Thr Arg Ser Ser Gln His Phe Tyr
100 105 110

Tyr Asp Gly Glu Leu Phe Leu Ser Gln Asn Leu Glu Thr Lys Glu Trp
115 120 125

Thr Met Pro Gln Ser Ser Arg Ala Gln Thr Leu Ala Met Asn Val Arg
130 135 140

Asn Phe Leu Lys Glu Asp Ala Met Lys Thr Lys Thr His Tyr His Ala
145 150 155 160

Met His Ala Asp Cys Leu Gln Glu Leu Arg Arg Tyr Leu Lys Ser Gly
165 170 175

Val Val Leu Arg Arg Thr Val Pro Pro Met Val Asn Val Thr Arg Ser
180 185 190

Glu Ala Ser Glu Gly Asn Ile Thr Val Thr Cys Arg Ala Ser Gly Phe
195 200 205

Tyr Pro Trp Asn Ile Thr Leu Ser Trp Arg Gln Asp Gly Val Ser Leu
210 215 220

Ser His Asp Thr Gln Gln Trp Gly Asp Val Leu Pro Asp Gly Asn Gly
225 230 235 240

Thr Tyr Gln Thr Trp Val Ala Thr Arg Ile Cys Gln Gly Glu Glu Gln
245 250 255

Arg Phe Thr Cys Tyr Met Glu His Ser Gly Asn His Ser Thr His Pro

260

265

270

Val Pro Ser Gly Lys Val Leu Val Leu Gln Ser His Trp
 275 280 285

<210> 10
 <211> 18
 <212> PRT
 <213> Homo sapiens

<400> 10

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

Tyr Ser

<210> 11
 <211> 22
 <212> PRT
 <213> Homo sapiens

<400> 11

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 1 5 10 15

Pro Glu Leu Leu Gly Gly
 20

<210> 12
 <211> 103
 <212> PRT
 <213> Homo sapiens

<400> 12

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 1 5 10 15

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 20 25 30

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
35 40 45

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
50 55 60

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
65 70 75 80

Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
85 90 95

Lys Thr Ile Ser Lys Ala Lys
100

<210> 13
<211> 107
<212> PRT
<213> Homo sapiens

<400> 13

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

Glu Leu Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val Lys Gly Phe
20 25 30

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
35 40 45

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
50 55 60

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
65 70 75 80

Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His Tyr

85

90

95

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 100 105

<210> 14

<211> 396

<212> PRT

<213> Artificial sequence

<220>

<223> Human PD-1-hFcA

<400> 14

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

Tyr Ser Ala Ser Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn
 20 25 30

Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp Asn
 35 40 45

Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu
 50 55 60

Asn Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala
 65 70 75 80

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

Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala
 100 105 110

Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala
 115 120 125

Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr

130

135

140

Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg
 145 150 155 160

Pro Ala Gly Gln Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
 165 170 175

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
 180 185 190

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 195 200 205

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
 210 215 220

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
 225 230 235 240

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 245 250 255

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val
 260 265 270

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
 275 280 285

Lys Gly Gln Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg
 290 295 300

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val Lys Gly
 305 310 315 320

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 325 330 335

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
340 345 350

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
355 360 365

Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His
370 375 380

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
385 390 395

<210> 15

<211> 396

<212> PRT

<213> Artificial sequence

<220>

<223> High affinity human PD-1-hFcA

<400> 15

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

Tyr Ser Ala Ser Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn
20 25 30

Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp Asn
35 40 45

Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe His Val
50 55 60

Val Trp His Arg Glu Ser Pro Ser Gly Gln Thr Asp Thr Leu Ala Ala
65 70 75 80

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

Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala
100 105 110

Arg Arg Asn Asp Ser Gly Thr Tyr Val Cys Gly Val Ile Ser Leu Ala
115 120 125

Pro Lys Ile Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr
130 135 140

Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg
145 150 155 160

Pro Ala Gly Gln Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
165 170 175

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
180 185 190

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
195 200 205

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
210 215 220

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
225 230 235 240

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
245 250 255

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val
260 265 270

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
275 280 285

Lys Gly Gln Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg

290

295

300

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val Lys Gly
 305 310 315 320

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 325 330 335

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 340 345 350

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 355 360 365

Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His
 370 375 380

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 385 390 395

<210> 16

<211> 403

<212> PRT

<213> Artificial sequence

<220>

<223> Human CD112R-hFcA

<400> 16

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

Tyr Ser Ala Ser Met Gly His Arg Thr Leu Val Leu Pro Trp Val Leu
 20 25 30

Leu Thr Leu Cys Val Thr Ala Gly Thr Pro Glu Val Trp Val Gln Val
 35 40 45

Arg Met Glu Ala Thr Glu Leu Ser Ser Phe Thr Ile Arg Cys Gly Phe

50

55

60

Leu Gly Ser Gly Ser Ile Ser Leu Val Thr Val Ser Trp Gly Gly Pro
 65 70 75 80

Asn Gly Ala Gly Gly Thr Thr Leu Ala Val Leu His Pro Glu Arg Gly
 85 90 95

Ile Arg Gln Trp Ala Pro Ala Arg Gln Ala Arg Trp Glu Thr Gln Ser
 100 105 110

Ser Ile Ser Leu Ile Leu Glu Gly Ser Gly Ala Ser Ser Pro Cys Ala
 115 120 125

Asn Thr Thr Phe Cys Cys Lys Phe Ala Ser Phe Pro Glu Gly Ser Trp
 130 135 140

Glu Ala Cys Gly Ser Leu Pro Pro Ser Ser Asp Pro Gly Leu Ser Ala
 145 150 155 160

Pro Pro Thr Pro Ala Pro Ile Leu Arg Ala Asp Glu Pro Lys Ser Ser
 165 170 175

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 180 185 190

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 195 200 205

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 210 215 220

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 225 230 235 240

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 245 250 255

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
260 265 270

Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
275 280 285

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
290 295 300

Cys Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
305 310 315 320

Leu Trp Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
325 330 335

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
340 345 350

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
355 360 365

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu
370 375 380

His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
385 390 395 400

Pro Gly Lys

<210> 17
<211> 370
<212> PRT
<213> Artificial sequence

<220>
<223> Human TIGIT-hFcA

<400> 17

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

Tyr Ser Met Met Thr Gly Thr Ile Glu Thr Thr Gly Asn Ile Ser Ala
20 25 30

Glu Lys Gly Gly Ser Ile Ile Leu Gln Cys His Leu Ser Ser Thr Thr
35 40 45

Ala Gln Val Thr Gln Val Asn Trp Glu Gln Gln Asp Gln Leu Leu Ala
50 55 60

Ile Cys Asn Ala Asp Leu Gly Trp His Ile Ser Pro Ser Phe Lys Asp
65 70 75 80

Arg Val Ala Pro Gly Pro Gly Leu Gly Leu Thr Leu Gln Ser Leu Thr
85 90 95

Val Asn Asp Thr Gly Glu Tyr Phe Cys Ile Tyr His Thr Tyr Pro Asp
100 105 110

Gly Thr Tyr Thr Gly Arg Ile Phe Leu Glu Val Leu Glu Ser Ser Val
115 120 125

Ala Glu His Gly Ala Arg Phe Gln Ile Pro Glu Pro Lys Ser Ser Asp
130 135 140

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
145 150 155 160

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
165 170 175

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
180 185 190

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His

195

200

205

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 210 215 220

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 225 230 235 240

Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 245 250 255

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Cys
 260 265 270

Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 275 280 285

Trp Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 290 295 300

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 305 310 315 320

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 325 330 335

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 340 345 350

Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 355 360 365

Gly Lys
 370

<210> 18
 <211> 748
 <212> PRT

<213> Artificial sequence

<220>

<223> Human CD96-hFcA

<400> 18

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

Tyr Ser Val Trp Glu Lys Thr Val Asn Thr Glu Glu Asn Val Tyr Ala
20 25 30

Thr Leu Gly Ser Asp Val Asn Leu Thr Cys Gln Thr Gln Thr Val Gly
35 40 45

Phe Phe Val Gln Met Gln Trp Ser Lys Val Thr Asn Lys Ile Asp Leu
50 55 60

Ile Ala Val Tyr His Pro Gln Tyr Gly Phe Tyr Cys Ala Tyr Gly Arg
65 70 75 80

Pro Cys Glu Ser Leu Val Thr Phe Thr Glu Thr Pro Glu Asn Gly Ser
85 90 95

Lys Trp Thr Leu His Leu Arg Asn Met Ser Cys Ser Val Ser Gly Arg
100 105 110

Tyr Glu Cys Met Leu Val Leu Tyr Pro Glu Gly Ile Gln Thr Lys Ile
115 120 125

Tyr Asn Leu Leu Ile Gln Thr His Val Thr Ala Asp Glu Trp Asn Ser
130 135 140

Asn His Thr Ile Glu Ile Glu Ile Asn Gln Thr Leu Glu Ile Pro Cys
145 150 155 160

Phe Gln Asn Ser Ser Ser Lys Ile Ser Ser Glu Phe Thr Tyr Ala Trp
165 170 175

Ser Val Glu Asn Ser Ser Thr Asp Ser Trp Val Leu Leu Ser Lys Gly
180 185 190

Ile Lys Glu Asp Asn Gly Thr Gln Glu Thr Leu Ile Ser Gln Asn His
195 200 205

Leu Ile Ser Asn Ser Thr Leu Leu Lys Asp Arg Val Lys Leu Gly Thr
210 215 220

Asp Tyr Arg Leu His Leu Ser Pro Val Gln Ile Phe Asp Asp Gly Arg
225 230 235 240

Lys Phe Ser Cys His Ile Arg Val Gly Pro Asn Lys Ile Leu Arg Ser
245 250 255

Ser Thr Thr Val Lys Val Phe Ala Lys Pro Glu Ile Pro Val Ile Val
260 265 270

Glu Asn Asn Ser Thr Asp Val Leu Val Glu Arg Arg Phe Thr Cys Leu
275 280 285

Leu Lys Asn Val Phe Pro Lys Ala Asn Ile Thr Trp Phe Ile Asp Gly
290 295 300

Ser Phe Leu His Asp Glu Lys Glu Gly Ile Tyr Ile Thr Asn Glu Glu
305 310 315 320

Arg Lys Gly Lys Asp Gly Phe Leu Glu Leu Lys Ser Val Leu Thr Arg
325 330 335

Val His Ser Asn Lys Pro Ala Gln Ser Asp Asn Leu Thr Ile Trp Cys
340 345 350

Met Ala Leu Ser Pro Val Pro Gly Asn Lys Val Trp Asn Ile Ser Ser
355 360 365

Glu Lys Ile Thr Phe Leu Leu Gly Ser Glu Ile Ser Ser Thr Asp Pro

370

375

380

Pro Leu Ser Val Thr Glu Ser Thr Leu Asp Thr Gln Pro Ser Pro Ala
 385 390 395 400

Ser Ser Val Ser Pro Ala Arg Tyr Pro Ala Thr Ser Ser Val Thr Leu
 405 410 415

Val Asp Val Ser Ala Leu Arg Pro Asn Thr Thr Pro Gln Pro Ser Asn
 420 425 430

Ser Ser Met Thr Thr Arg Gly Phe Asn Tyr Pro Trp Thr Ser Ser Gly
 435 440 445

Thr Asp Thr Lys Lys Ser Val Ser Arg Ile Pro Ser Glu Thr Tyr Ser
 450 455 460

Ser Ser Pro Ser Gly Ala Gly Ser Thr Leu His Asp Asn Val Phe Thr
 465 470 475 480

Ser Thr Ala Arg Ala Phe Ser Glu Val Pro Thr Thr Ala Asn Gly Ser
 485 490 495

Thr Lys Thr Asn His Val His Ile Thr Gly Ile Val Val Asn Lys Pro
 500 505 510

Lys Asp Gly Met Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
 515 520 525

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
 530 535 540

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 545 550 555 560

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
 565 570 575

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
580 585 590

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
595 600 605

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val
610 615 620

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
625 630 635 640

Lys Gly Gln Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg
645 650 655

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val Lys Gly
660 665 670

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
675 680 685

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
690 695 700

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
705 710 715 720

Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His
725 730 735

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
740 745

<210> 19
<211> 486
<212> PRT
<213> Artificial sequence

<220>

<223> Human CD226-hFcA

<400> 19

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

Tyr Ser Glu Glu Val Leu Trp His Thr Ser Val Pro Phe Ala Glu Asn
20 25 30

Met Ser Leu Glu Cys Val Tyr Pro Ser Met Gly Ile Leu Thr Gln Val
35 40 45

Glu Trp Phe Lys Ile Gly Thr Gln Gln Asp Ser Ile Ala Ile Phe Ser
50 55 60

Pro Thr His Gly Met Val Ile Arg Lys Pro Tyr Ala Glu Arg Val Tyr
65 70 75 80

Phe Leu Asn Ser Thr Met Ala Ser Asn Asn Met Thr Leu Phe Phe Arg
85 90 95

Asn Ala Ser Glu Asp Asp Val Gly Tyr Tyr Ser Cys Ser Leu Tyr Thr
100 105 110

Tyr Pro Gln Gly Thr Trp Gln Lys Val Ile Gln Val Val Gln Ser Asp
115 120 125

Ser Phe Glu Ala Ala Val Pro Ser Asn Ser His Ile Val Ser Glu Pro
130 135 140

Gly Lys Asn Val Thr Leu Thr Cys Gln Pro Gln Met Thr Trp Pro Val
145 150 155 160

Gln Ala Val Arg Trp Glu Lys Ile Gln Pro Arg Gln Ile Asp Leu Leu
165 170 175

Thr Tyr Cys Asn Leu Val His Gly Arg Asn Phe Thr Ser Lys Phe Pro

180

185

190

Arg Gln Ile Val Ser Asn Cys Ser His Gly Arg Trp Ser Val Ile Val
 195 200 205

Ile Pro Asp Val Thr Val Ser Asp Ser Gly Leu Tyr Arg Cys Tyr Leu
 210 215 220

Gln Ala Ser Ala Gly Glu Asn Glu Thr Phe Val Met Arg Leu Thr Val
 225 230 235 240

Ala Glu Gly Lys Thr Asp Asn Gln Tyr Thr Leu Phe Val Ala Glu Pro
 245 250 255

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 260 265 270

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 275 280 285

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 290 295 300

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 305 310 315 320

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
 325 330 335

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 340 345 350

Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro
 355 360 365

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 370 375 380

Pro Gln Val Cys Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn
385 390 395 400

Gln Val Ser Leu Trp Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
405 410 415

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
420 425 430

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
435 440 445

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
450 455 460

Ser Val Leu His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu
465 470 475 480

Ser Leu Ser Pro Gly Lys
485

<210> 20
<211> 580
<212> PRT
<213> Artificial sequence

<220>
<223> Human NECL2-hFcA

<400> 20

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

Tyr Ser Gln Asn Leu Phe Thr Lys Asp Val Thr Val Ile Glu Gly Glu
20 25 30

Val Ala Thr Ile Ser Cys Gln Val Asn Lys Ser Asp Asp Ser Val Ile
35 40 45

Gln Leu Leu Asn Pro Asn Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg
50 55 60

Pro Leu Lys Asp Ser Arg Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu
65 70 75 80

Leu Lys Val Ser Leu Thr Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr
85 90 95

Phe Cys Gln Leu Tyr Thr Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile
100 105 110

Thr Val Leu Val Pro Pro Arg Asn Leu Met Ile Asp Ile Gln Lys Asp
115 120 125

Thr Ala Val Glu Gly Glu Glu Ile Glu Val Asn Cys Thr Ala Met Ala
130 135 140

Ser Lys Pro Ala Thr Thr Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu
145 150 155 160

Lys Gly Lys Ser Glu Val Glu Glu Trp Ser Asp Met Tyr Thr Val Thr
165 170 175

Ser Gln Leu Met Leu Lys Val His Lys Glu Asp Asp Gly Val Pro Val
180 185 190

Ile Cys Gln Val Glu His Pro Ala Val Thr Gly Asn Leu Gln Thr Gln
195 200 205

Arg Tyr Leu Glu Val Gln Tyr Lys Pro Gln Val His Ile Gln Met Thr
210 215 220

Tyr Pro Leu Gln Gly Leu Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr
225 230 235 240

Cys Glu Ala Ile Gly Lys Pro Gln Pro Val Met Val Thr Trp Val Arg

245

250

255

Val Asp Asp Glu Met Pro Gln His Ala Val Leu Ser Gly Pro Asn Leu
 260 265 270

Phe Ile Asn Asn Leu Asn Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu
 275 280 285

Ala Ser Asn Ile Val Gly Lys Ala His Ser Asp Tyr Met Leu Tyr Val
 290 295 300

Tyr Asp Pro Pro Thr Thr Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr
 305 310 315 320

Thr Thr Thr Thr Thr Thr Thr Ile Leu Thr Ile Ile Thr Asp Ser Arg
 325 330 335

Ala Gly Glu Glu Gly Ser Ile Arg Ala Val Asp His Glu Pro Lys Ser
 340 345 350

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
 355 360 365

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 370 375 380

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 385 390 395 400

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 405 410 415

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 420 425 430

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 435 440 445

Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro
450 455 460

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
465 470 475 480

Val Cys Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
485 490 495

Ser Leu Trp Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
500 505 510

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
515 520 525

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
530 535 540

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
545 550 555 560

Leu His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu
565 570 575

Ser Pro Gly Lys
580

<210> 21
<211> 594
<212> PRT
<213> Artificial sequence

<220>
<223> Human CD113-hFcA

<400> 21

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

Tyr Ser Ala Ser Pro Ile Ile Val Glu Pro His Val Thr Ala Val Trp
20 25 30

Gly Lys Asn Val Ser Leu Lys Cys Leu Ile Glu Val Asn Glu Thr Ile
35 40 45

Thr Gln Ile Ser Trp Glu Lys Ile His Gly Lys Ser Ser Gln Thr Val
50 55 60

Ala Val His His Pro Gln Tyr Gly Phe Ser Val Gln Gly Glu Tyr Gln
65 70 75 80

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

Leu His Asn Ile Gly Phe Ser Asp Ser Gly Lys Tyr Ile Cys Lys Ala
100 105 110

Val Thr Phe Pro Leu Gly Asn Ala Gln Ser Ser Thr Thr Val Thr Val
115 120 125

Leu Val Glu Pro Thr Val Ser Leu Ile Lys Gly Pro Asp Ser Leu Ile
130 135 140

Asp Gly Gly Asn Glu Thr Val Ala Ala Ile Cys Ile Ala Ala Thr Gly
145 150 155 160

Lys Pro Val Ala His Ile Asp Trp Glu Gly Asp Leu Gly Glu Met Glu
165 170 175

Ser Thr Thr Thr Ser Phe Pro Asn Glu Thr Ala Thr Ile Ile Ser Gln
180 185 190

Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg Gly Arg Arg Ile Thr Cys
195 200 205

Val Val Lys His Pro Ala Leu Glu Lys Asp Ile Arg Tyr Ser Phe Ile

210

215

220

Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser Val Thr Gly Tyr Asp Gly
 225 230 235 240

Asn Trp Phe Val Gly Arg Lys Gly Val Asn Leu Lys Cys Asn Ala Asp
 245 250 255

Ala Asn Pro Pro Pro Phe Lys Ser Val Trp Ser Arg Leu Asp Gly Gln
 260 265 270

Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His
 275 280 285

Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr Ile Cys Lys Val Thr Asn
 290 295 300

Ser Leu Gly Gln Arg Ser Asp Gln Lys Val Ile Tyr Ile Ser Asp Pro
 305 310 315 320

Pro Thr Thr Thr Thr Leu Gln Pro Thr Ile Gln Trp His Pro Ser Thr
 325 330 335

Ala Asp Ile Glu Asp Leu Ala Thr Glu Pro Lys Lys Leu Pro Phe Pro
 340 345 350

Leu Ser Thr Leu Ala Thr Ile Lys Asp Asp Glu Pro Lys Ser Ser Asp
 355 360 365

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 370 375 380

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 385 390 395 400

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 405 410 415

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
420 425 430

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
435 440 445

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
450 455 460

Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
465 470 475 480

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Cys
485 490 495

Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
500 505 510

Trp Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
515 520 525

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
530 535 540

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
545 550 555 560

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
565 570 575

Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
580 585 590

Gly Lys

<211> 537
<212> PRT
<213> Artificial sequence

<220>
<223> Human MICA-hFcA

<400> 22

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

Tyr Ser Ala Ser Ala Glu Pro His Ser Leu Arg Tyr Asn Leu Thr Val
20 25 30

Leu Ser Trp Asp Gly Ser Val Gln Ser Gly Phe Leu Thr Glu Val His
35 40 45

Leu Asp Gly Gln Pro Phe Leu Arg Cys Asp Arg Gln Lys Cys Arg Ala
50 55 60

Lys Pro Gln Gly Gln Trp Ala Glu Asp Val Leu Gly Asn Lys Thr Trp
65 70 75 80

Asp Arg Glu Thr Arg Asp Leu Thr Gly Asn Gly Lys Asp Leu Arg Met
85 90 95

Thr Leu Ala His Ile Lys Asp Gln Lys Glu Gly Leu His Ser Leu Gln
100 105 110

Glu Ile Arg Val Cys Glu Ile His Glu Asp Asn Ser Thr Arg Ser Ser
115 120 125

Gln His Phe Tyr Tyr Asp Gly Glu Leu Phe Leu Ser Gln Asn Leu Glu
130 135 140

Thr Lys Glu Trp Thr Met Pro Gln Ser Ser Arg Ala Gln Thr Leu Ala
145 150 155 160

Met Asn Val Arg Asn Phe Leu Lys Glu Asp Ala Met Lys Thr Lys Thr

165

170

175

His Tyr His Ala Met His Ala Asp Cys Leu Gln Glu Leu Arg Arg Tyr
 180 185 190

Leu Lys Ser Gly Val Val Leu Arg Arg Thr Val Pro Pro Met Val Asn
 195 200 205

Val Thr Arg Ser Glu Ala Ser Glu Gly Asn Ile Thr Val Thr Cys Arg
 210 215 220

Ala Ser Gly Phe Tyr Pro Trp Asn Ile Thr Leu Ser Trp Arg Gln Asp
 225 230 235 240

Gly Val Ser Leu Ser His Asp Thr Gln Gln Trp Gly Asp Val Leu Pro
 245 250 255

Asp Gly Asn Gly Thr Tyr Gln Thr Trp Val Ala Thr Arg Ile Cys Gln
 260 265 270

Gly Glu Glu Gln Arg Phe Thr Cys Tyr Met Glu His Ser Gly Asn His
 275 280 285

Ser Thr His Pro Val Pro Ser Gly Lys Val Leu Val Leu Gln Ser His
 290 295 300

Trp Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 305 310 315 320

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 325 330 335

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 340 345 350

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 355 360 365

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
370 375 380

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
385 390 395 400

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys
405 410 415

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
420 425 430

Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg Asp Glu Leu
435 440 445

Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val Lys Gly Phe Tyr Pro
450 455 460

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
465 470 475 480

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
485 490 495

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
500 505 510

Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His Tyr Thr Gln
515 520 525

Lys Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 23
<211> 252
<212> PRT
<213> Artificial sequence

<220>

<223> Human FcA

<400> 23

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

Tyr Ser Ala Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
20 25 30

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
35 40 45

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
50 55 60

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
65 70 75 80

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
85 90 95

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
100 105 110

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val
115 120 125

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
130 135 140

Lys Gly Gln Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg
145 150 155 160

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val Lys Gly
165 170 175

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro

180

185

190

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 195 200 205

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 210 215 220

Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His
 225 230 235 240

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 245 250

<210> 24
 <211> 323
 <212> PRT
 <213> Homo sapiens

<400> 24

Trp Pro Pro Pro Gly Thr Gly Asp Val Val Val Gln Ala Pro Thr Gln
 1 5 10 15

Val Pro Gly Phe Leu Gly Asp Ser Val Thr Leu Pro Cys Tyr Leu Gln
 20 25 30

Val Pro Asn Met Glu Val Thr His Val Ser Gln Leu Thr Trp Ala Arg
 35 40 45

His Gly Glu Ser Gly Ser Met Ala Val Phe His Gln Thr Gln Gly Pro
 50 55 60

Ser Tyr Ser Glu Ser Lys Arg Leu Glu Phe Val Ala Ala Arg Leu Gly
 65 70 75 80

Ala Glu Leu Arg Asn Ala Ser Leu Arg Met Phe Gly Leu Arg Val Glu
 85 90 95

Asp Glu Gly Asn Tyr Thr Cys Leu Phe Val Thr Phe Pro Gln Gly Ser
100 105 110

Arg Ser Val Asp Ile Trp Leu Arg Val Leu Ala Lys Pro Gln Asn Thr
115 120 125

Ala Glu Val Gln Lys Val Gln Leu Thr Gly Glu Pro Val Pro Met Ala
130 135 140

Arg Cys Val Ser Thr Gly Gly Arg Pro Pro Ala Gln Ile Thr Trp His
145 150 155 160

Ser Asp Leu Gly Gly Met Pro Asn Thr Ser Gln Val Pro Gly Phe Leu
165 170 175

Ser Gly Thr Val Thr Val Thr Ser Leu Trp Ile Leu Val Pro Ser Ser
180 185 190

Gln Val Asp Gly Lys Asn Val Thr Cys Lys Val Glu His Glu Ser Phe
195 200 205

Glu Lys Pro Gln Leu Leu Thr Val Asn Leu Thr Val Tyr Tyr Pro Pro
210 215 220

Glu Val Ser Ile Ser Gly Tyr Asp Asn Asn Trp Tyr Leu Gly Gln Asn
225 230 235 240

Glu Ala Thr Leu Thr Cys Asp Ala Arg Ser Asn Pro Glu Pro Thr Gly
245 250 255

Tyr Asn Trp Ser Thr Thr Met Gly Pro Leu Pro Pro Phe Ala Val Ala
260 265 270

Gln Gly Ala Gln Leu Leu Ile Arg Pro Val Asp Lys Pro Ile Asn Thr
275 280 285

Thr Leu Ile Cys Asn Val Thr Asn Ala Leu Gly Ala Arg Gln Ala Glu
290 295 300

Leu Thr Val Gln Val Lys Glu Gly Pro Pro Ser Glu His Ser Gly Met
305 310 315 320

Ser Arg Asn

<210> 25
<211> 120
<212> PRT
<213> Homo sapiens

<400> 25

Met Met Thr Gly Thr Ile Glu Thr Thr Gly Asn Ile Ser Ala Glu Lys
1 5 10 15

Gly Gly Ser Ile Ile Leu Gln Cys His Leu Ser Ser Thr Thr Ala Gln
20 25 30

Val Thr Gln Val Asn Trp Glu Gln Gln Asp Gln Leu Leu Ala Ile Cys
35 40 45

Asn Ala Asp Leu Gly Trp His Ile Ser Pro Ser Phe Lys Asp Arg Val
50 55 60

Ala Pro Gly Pro Gly Leu Gly Leu Thr Leu Gln Ser Leu Thr Val Asn
65 70 75 80

Asp Thr Gly Glu Tyr Phe Cys Ile Tyr His Thr Tyr Pro Asp Gly Thr
85 90 95

Tyr Thr Gly Arg Ile Phe Leu Glu Val Leu Glu Ser Ser Val Ala Glu
100 105 110

His Gly Ala Arg Phe Gln Ile Pro
115 120

<210> 26

<211> 170
<212> PRT
<213> Mus musculus

<400> 26

Leu Glu Asp Gly Tyr Lys Val Glu Val Gly Lys Asn Ala Tyr Leu Pro
1 5 10 15

Cys Ser Tyr Thr Leu Pro Thr Ser Gly Thr Leu Val Pro Met Cys Trp
20 25 30

Gly Lys Gly Phe Cys Pro Trp Ser Gln Cys Thr Asn Glu Leu Leu Arg
35 40 45

Thr Asp Glu Arg Asn Val Thr Tyr Gln Lys Ser Ser Arg Tyr Gln Leu
50 55 60

Lys Gly Asp Leu Asn Lys Gly Asp Val Ser Leu Ile Ile Lys Asn Val
65 70 75 80

Thr Leu Asp Asp His Gly Thr Tyr Cys Cys Arg Ile Gln Phe Pro Gly
85 90 95

Leu Met Asn Asp Lys Lys Leu Glu Leu Lys Leu Asp Ile Lys Ala Ala
100 105 110

Lys Val Thr Pro Ala Gln Thr Ala His Gly Asp Ser Thr Thr Ala Ser
115 120 125

Pro Arg Thr Leu Thr Thr Glu Arg Asn Gly Ser Glu Thr Gln Thr Leu
130 135 140

Val Thr Leu His Asn Asn Asn Gly Thr Lys Ile Ser Thr Trp Ala Asp
145 150 155 160

Glu Ile Lys Asp Ser Gly Glu Thr Ile Arg
165 170

<210> 27
<211> 342
<212> PRT
<213> Homo sapiens

<400> 27

Pro Ile Ile Val Glu Pro His Val Thr Ala Val Trp Gly Lys Asn Val
1 5 10 15

Ser Leu Lys Cys Leu Ile Glu Val Asn Glu Thr Ile Thr Gln Ile Ser
20 25 30

Trp Glu Lys Ile His Gly Lys Ser Ser Gln Thr Val Ala Val His His
35 40 45

Pro Gln Tyr Gly Phe Ser Val Gln Gly Glu Tyr Gln Gly Arg Val Leu
50 55 60

Phe Lys Asn Tyr Ser Leu Asn Asp Ala Thr Ile Thr Leu His Asn Ile
65 70 75 80

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

Leu Gly Asn Ala Gln Ser Ser Thr Thr Val Thr Val Leu Val Glu Pro
100 105 110

Thr Val Ser Leu Ile Lys Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn
115 120 125

Glu Thr Val Ala Ala Ile Cys Ile Ala Ala Thr Gly Lys Pro Val Ala
130 135 140

His Ile Asp Trp Glu Gly Asp Leu Gly Glu Met Glu Ser Thr Thr Thr
145 150 155 160

Ser Phe Pro Asn Glu Thr Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe
165 170 175

Pro Thr Arg Phe Ala Arg Gly Arg Arg Ile Thr Cys Val Val Lys His
180 185 190

Pro Ala Leu Glu Lys Asp Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln
195 200 205

Tyr Ala Pro Glu Val Ser Val Thr Gly Tyr Asp Gly Asn Trp Phe Val
210 215 220

Gly Arg Lys Gly Val Asn Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro
225 230 235 240

Pro Phe Lys Ser Val Trp Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly
245 250 255

Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His Pro Leu Thr Phe
260 265 270

Asn Tyr Ser Gly Val Tyr Ile Cys Lys Val Thr Asn Ser Leu Gly Gln
275 280 285

Arg Ser Asp Gln Lys Val Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr
290 295 300

Thr Leu Gln Pro Thr Ile Gln Trp His Pro Ser Thr Ala Asp Ile Glu
305 310 315 320

Asp Leu Ala Thr Glu Pro Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu
325 330 335

Ala Thr Ile Lys Asp Asp
340

<210> 28
<211> 330
<212> PRT
<213> Homo sapiens

<400> 28

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 29
<211> 330
<212> PRT
<213> Artificial sequence

<220>
<223> Component A Y349C and T366W

<400> 29

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Asn Ser Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 30

<211> 330

<212> PRT

<213> Artificial sequence

<220>

<223> Component B D356C, T366S, L368A and Y407V

<400> 30

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Cys Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Val Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 31
<211> 37
<212> PRT
<213> Artificial sequence

<220>
<223> Linker

<400> 31

Gly Asp Pro Leu Val Thr Ala Ala Ser Val Leu Glu Phe Gly Gly Ser
1 5 10 15

Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly
20 25 30

Gly Gly Ser Asp Ile
35

<210> 32
<211> 575
<212> PRT
<213> Artificial sequence

<220>

<223> Human CD155-hFcB

<400> 32

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

Tyr Ser Ala Ser Trp Pro Pro Pro Gly Thr Gly Asp Val Val Val Gln
20 25 30

Ala Pro Thr Gln Val Pro Gly Phe Leu Gly Asp Ser Val Thr Leu Pro
35 40 45

Cys Tyr Leu Gln Val Pro Asn Met Glu Val Thr His Val Ser Gln Leu
50 55 60

Thr Trp Ala Arg His Gly Glu Ser Gly Ser Met Ala Val Phe His Gln
65 70 75 80

Thr Gln Gly Pro Ser Tyr Ser Glu Ser Lys Arg Leu Glu Phe Val Ala
85 90 95

Ala Arg Leu Gly Ala Glu Leu Arg Asn Ala Ser Leu Arg Met Phe Gly
100 105 110

Leu Arg Val Glu Asp Glu Gly Asn Tyr Thr Cys Leu Phe Val Thr Phe
115 120 125

Pro Gln Gly Ser Arg Ser Val Asp Ile Trp Leu Arg Val Leu Ala Lys
130 135 140

Pro Gln Asn Thr Ala Glu Val Gln Lys Val Gln Leu Thr Gly Glu Pro
145 150 155 160

Val Pro Met Ala Arg Cys Val Ser Thr Gly Gly Arg Pro Pro Ala Gln
165 170 175

Ile Thr Trp His Ser Asp Leu Gly Gly Met Pro Asn Thr Ser Gln Val
180 185 190

Pro Gly Phe Leu Ser Gly Thr Val Thr Val Thr Ser Leu Trp Ile Leu
195 200 205

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

His Glu Ser Phe Glu Lys Pro Gln Leu Leu Thr Val Asn Leu Thr Val
225 230 235 240

Tyr Tyr Pro Pro Glu Val Ser Ile Ser Gly Tyr Asp Asn Asn Trp Tyr
245 250 255

Leu Gly Gln Asn Glu Ala Thr Leu Thr Cys Asp Ala Arg Ser Asn Pro
260 265 270

Glu Pro Thr Gly Tyr Asn Trp Ser Thr Thr Met Gly Pro Leu Pro Pro
275 280 285

Phe Ala Val Ala Gln Gly Ala Gln Leu Leu Ile Arg Pro Val Asp Lys
290 295 300

Pro Ile Asn Thr Thr Leu Ile Cys Asn Val Thr Asn Ala Leu Gly Ala
305 310 315 320

Arg Gln Ala Glu Leu Thr Val Gln Val Lys Glu Gly Pro Pro Ser Glu
325 330 335

His Ser Gly Met Ser Arg Asn Glu Pro Lys Ser Ser Asp Lys Thr His
340 345 350

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
355 360 365

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
370 375 380

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
385 390 395 400

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
405 410 415

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
420 425 430

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
435 440 445

Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
450 455 460

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
465 470 475 480

Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser Leu Ser Cys Ala
485 490 495

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
500 505 510

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
515 520 525

Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp Lys Ser Arg
530 535 540

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu
545 550 555 560

His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570 575

<210> 33
<211> 372
<212> PRT
<213> Artificial sequence

<220>
<223> Human TIGIT-hFcB

<400> 33

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

Tyr Ser Ala Ser Met Met Thr Gly Thr Ile Glu Thr Thr Gly Asn Ile
20 25 30

Ser Ala Glu Lys Gly Gly Ser Ile Ile Leu Gln Cys His Leu Ser Ser
35 40 45

Thr Thr Ala Gln Val Thr Gln Val Asn Trp Glu Gln Gln Asp Gln Leu
50 55 60

Leu Ala Ile Cys Asn Ala Asp Leu Gly Trp His Ile Ser Pro Ser Phe
65 70 75 80

Lys Asp Arg Val Ala Pro Gly Pro Gly Leu Gly Leu Thr Leu Gln Ser
85 90 95

Leu Thr Val Asn Asp Thr Gly Glu Tyr Phe Cys Ile Tyr His Thr Tyr
100 105 110

Pro Asp Gly Thr Tyr Thr Gly Arg Ile Phe Leu Glu Val Leu Glu Ser
115 120 125

Ser Val Ala Glu His Gly Ala Arg Phe Gln Ile Pro Glu Pro Lys Ser
130 135 140

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
145 150 155 160

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
165 170 175

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
180 185 190

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
195 200 205

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
210 215 220

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
225 230 235 240

Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro
245 250 255

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
260 265 270

Val Tyr Thr Leu Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val
275 280 285

Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
290 295 300

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
305 310 315 320

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr
325 330 335

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
340 345 350

Leu His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu
355 360 365

Ser Pro Gly Lys
370

<210> 34
<211> 422
<212> PRT
<213> Artificial sequence

<220>
<223> Mouse TIM-3-hFcB

<400> 34

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

Tyr Ser Ala Ser Leu Glu Asp Gly Tyr Lys Val Glu Val Gly Lys Asn
20 25 30

Ala Tyr Leu Pro Cys Ser Tyr Thr Leu Pro Thr Ser Gly Thr Leu Val
35 40 45

Pro Met Cys Trp Gly Lys Gly Phe Cys Pro Trp Ser Gln Cys Thr Asn
50 55 60

Glu Leu Leu Arg Thr Asp Glu Arg Asn Val Thr Tyr Gln Lys Ser Ser
65 70 75 80

Arg Tyr Gln Leu Lys Gly Asp Leu Asn Lys Gly Asp Val Ser Leu Ile
85 90 95

Ile Lys Asn Val Thr Leu Asp Asp His Gly Thr Tyr Cys Cys Arg Ile
100 105 110

Gln Phe Pro Gly Leu Met Asn Asp Lys Lys Leu Glu Leu Lys Leu Asp
115 120 125

Ile Lys Ala Ala Lys Val Thr Pro Ala Gln Thr Ala His Gly Asp Ser
130 135 140

Thr Thr Ala Ser Pro Arg Thr Leu Thr Thr Glu Arg Asn Gly Ser Glu
145 150 155 160

Thr Gln Thr Leu Val Thr Leu His Asn Asn Asn Gly Thr Lys Ile Ser
165 170 175

Thr Trp Ala Asp Glu Ile Lys Asp Ser Gly Glu Thr Ile Arg Glu Pro
180 185 190

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
195 200 205

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
210 215 220

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
225 230 235 240

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
245 250 255

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
260 265 270

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
275 280 285

Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro
290 295 300

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
305 310 315 320

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn
325 330 335

Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile
340 345 350

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
355 360 365

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys
370 375 380

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
385 390 395 400

Ser Val Leu His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu
405 410 415

Ser Leu Ser Pro Gly Lys
420

<210> 35
<211> 594
<212> PRT
<213> Artificial sequence

<220>
<223> Human CD113-hFcB

<400> 35

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

Tyr Ser Ala Ser Pro Ile Ile Val Glu Pro His Val Thr Ala Val Trp
20 25 30

Gly Lys Asn Val Ser Leu Lys Cys Leu Ile Glu Val Asn Glu Thr Ile
35 40 45

Thr Gln Ile Ser Trp Glu Lys Ile His Gly Lys Ser Ser Gln Thr Val
50 55 60

Ala Val His His Pro Gln Tyr Gly Phe Ser Val Gln Gly Glu Tyr Gln
65 70 75 80

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

Leu His Asn Ile Gly Phe Ser Asp Ser Gly Lys Tyr Ile Cys Lys Ala
100 105 110

Val Thr Phe Pro Leu Gly Asn Ala Gln Ser Ser Thr Thr Val Thr Val
115 120 125

Leu Val Glu Pro Thr Val Ser Leu Ile Lys Gly Pro Asp Ser Leu Ile
130 135 140

Asp Gly Gly Asn Glu Thr Val Ala Ala Ile Cys Ile Ala Ala Thr Gly
145 150 155 160

Lys Pro Val Ala His Ile Asp Trp Glu Gly Asp Leu Gly Glu Met Glu
165 170 175

Ser Thr Thr Thr Ser Phe Pro Asn Glu Thr Ala Thr Ile Ile Ser Gln
180 185 190

Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg Gly Arg Arg Ile Thr Cys
195 200 205

Val Val Lys His Pro Ala Leu Glu Lys Asp Ile Arg Tyr Ser Phe Ile
210 215 220

Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser Val Thr Gly Tyr Asp Gly
225 230 235 240

Asn Trp Phe Val Gly Arg Lys Gly Val Asn Leu Lys Cys Asn Ala Asp
245 250 255

Ala Asn Pro Pro Pro Phe Lys Ser Val Trp Ser Arg Leu Asp Gly Gln
260 265 270

Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His
275 280 285

Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr Ile Cys Lys Val Thr Asn
290 295 300

Ser Leu Gly Gln Arg Ser Asp Gln Lys Val Ile Tyr Ile Ser Asp Pro
305 310 315 320

Pro Thr Thr Thr Thr Leu Gln Pro Thr Ile Gln Trp His Pro Ser Thr
325 330 335

Ala Asp Ile Glu Asp Leu Ala Thr Glu Pro Lys Lys Leu Pro Phe Pro
340 345 350

Leu Ser Thr Leu Ala Thr Ile Lys Asp Asp Glu Pro Lys Ser Ser Asp
355 360 365

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
370 375 380

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
385 390 395 400

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
405 410 415

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
420 425 430

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
435 440 445

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
450 455 460

Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
465 470 475 480

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
485 490 495

Thr Leu Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser Leu
500 505 510

Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
515 520 525

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
530 535 540

Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
545 550 555 560

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
565 570 575

Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
580 585 590

Gly Lys

<210> 36
<211> 252
<212> PRT
<213> Artificial sequence

<220>
<223> Human FcB

<400> 36

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

Tyr Ser Ala Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
20 25 30

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
35 40 45

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
50 55 60

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
65 70 75 80

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
85 90 95

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
100 105 110

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Ala Val
115 120 125

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
130 135 140

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
145 150 155 160

Cys Glu Leu Thr Lys Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly
165 170 175

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
180 185 190

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
195 200 205

Phe Phe Leu Val Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
210 215 220

Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His
225 230 235 240

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
245 250

<210> 37
<211> 71
<212> PRT
<213> Human gammaherpesvirus 8

<400> 37

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
1 5 10 15

Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro Thr Ser
20 25 30

Gln Leu Cys Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Gly Arg
35 40 45

Gln Val Cys Ala Asp Lys Ser Lys Asp Trp Val Lys Lys Leu Met Gln
50 55 60

Gln Leu Pro Val Thr Ala Arg
65 70

<210> 38
<211> 21
<212> PRT
<213> Human gammaherpesvirus 8

<400> 38

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
1 5 10 15

Lys Arg Pro Leu Pro
20

<210> 39
<211> 21
<212> PRT
<213> Artificial sequence

<220>
<223> V1delta

<400> 39

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Ala Leu Gly Tyr Gln
1 5 10 15

Lys Arg Pro Leu Pro
20

<210> 40
<211> 21
<212> PRT
<213> Artificial sequence

<220>
<223> V1delta mut

<400> 40

Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Ala Leu Gly Tyr Gln
1 5 10 15

Lys Arg Pro Leu Pro
20

<210> 41
<211> 34
<212> PRT
<213> Human gammaherpesvirus 8

<400> 41

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
1 5 10 15

Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro Thr Ser

20

25

30

Gln Leu

<210> 42

<211> 34

<212> PRT

<213> Artificial sequence

<220>

<223> Vp1delta

<400> 42

Leu	Gly	Ala	Ser	Trp	His	Arg	Pro	Asp	Lys	Cys	Ala	Leu	Gly	Tyr	Gln
1				5					10					15	

Lys	Arg	Pro	Leu	Pro	Gln	Val	Leu	Leu	Ser	Ser	Trp	Tyr	Pro	Thr	Ser
			20				25						30		

Gln Leu

<210> 43

<211> 34

<212> PRT

<213> Artificial sequence

<220>

<223> Vp1delta mut

<400> 43

Leu	Gly	Ala	Ser	Trp	His	Arg	Pro	Asp	Ala	Cys	Ala	Leu	Gly	Tyr	Gln
1				5					10					15	

Lys	Arg	Pro	Leu	Pro	Gln	Val	Leu	Leu	Ser	Ser	Trp	Tyr	Pro	Thr	Ser
			20				25						30		

Gln Leu

<210> 44
<211> 107
<212> PRT
<213> Artificial sequence

<220>
<223> IgG1 Z3 domain

<400> 44

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

Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
20 25 30

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
35 40 45

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
50 55 60

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
65 70 75 80

Asn Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Asn Ser Tyr
85 90 95

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
100 105

<210> 45
<211> 100
<212> PRT
<213> Artificial sequence

<220>
<223> exemplary sequence for component Z1 prime

<220>
<221> misc_feature

<222> (100)..(100)

<223> Xaa can be any naturally occurring amino acid

<400> 45

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
1 5 10 15

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
20 25 30

Asp Tyr Phe Pro Glu Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
35 40 45

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
50 55 60

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
65 70 75 80

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
85 90 95

Lys Lys Val Xaa
100

<210> 46

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> exemplary purification tag

<400> 46

Ala Ser His His His His His His Met
1 5

<210> 47

<211> 27

<212> PRT

<213> Artificial sequence

<220>

<223> exemplary trimerization sequence

<400> 47

Gly	Tyr	Ile	Pro	Glu	Ala	Pro	Arg	Asp	Gly	Gln	Ala	Tyr	Val	Arg	Lys
1				5					10					15	

Arg	Gly	Glu	Trp	Val	Leu	Leu	Ser	Thr	Phe	Leu
		20						25		

<210> 48

<211> 107

<212> PRT

<213> Artificial sequence

<220>

<223> exemplary sequence for component Z3 prime

<400> 48

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

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

Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu
			35				40					45			

Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe
	50					55					60				

Phe	Leu	Val	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly
65					70				75					80	

Asn	Val	Phe	Ser	Cys	Ser	Val	Leu	His	Glu	Ala	Leu	His	Ser	His	Tyr
				85					90					95	

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys

100

105

<210> 49
 <211> 421
 <212> PRT
 <213> Artificial sequence

<220>
 <223> vMIPII-CH-hFcB

<220>
 <221> misc_feature
 <222> (189)..(189)
 <223> Xaa can be any naturally occurring amino acid

<400> 49

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly
 20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
 35 40 45

Thr Ser Gln Leu Cys Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Arg
 50 55 60

Gly Arg Gln Val Cys Ala Asp Lys Ser Lys Asp Trp Val Lys Lys Leu
 65 70 75 80

Met Gln Gln Leu Pro Val Thr Ala Arg Ser Ser Ala Ser Thr Lys Gly
 85 90 95

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 100 105 110

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr
 115 120 125

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
130 135 140

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr
145 150 155 160

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
165 170 175

His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys
180 185 190

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
195 200 205

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
210 215 220

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
225 230 235 240

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
245 250 255

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
260 265 270

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
275 280 285

Asn Gly Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala
290 295 300

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
305 310 315 320

Gln Val Tyr Thr Leu Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln

325

330

335

Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 340 345 350

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 355 360 365

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu
 370 375 380

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 385 390 395 400

Val Leu His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser
 405 410 415

Leu Ser Pro Gly Lys
 420

<210> 50
 <211> 371
 <212> PRT
 <213> Artificial sequence

<220>
 <223> V1-CH- hFcB

<220>
 <221> misc_feature
 <222> (139)..(139)
 <223> Xaa can be any naturally occurring amino acid

<400> 50

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly
 20 25 30

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
50 55 60

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr Val Ser
65 70 75 80

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
85 90 95

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
100 105 110

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
115 120 125

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys Ser Ser
130 135 140

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
145 150 155 160

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
165 170 175

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
180 185 190

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
195 200 205

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
210 215 220

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly

225		230		235		240									
Lys	Glu	Tyr	Lys	Cys	Ala	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile
				245					250					255	
Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val
			260					265					270		
Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Cys	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser
		275					280					285			
Leu	Ser	Cys	Ala	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu
	290					295					300				
Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro
305					310					315					320
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Val	Ser	Lys	Leu	Thr	Val
				325					330					335	
Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Leu
			340					345					350		
His	Glu	Ala	Leu	His	Ser	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser
	355						360					365			
Pro	Gly	Lys													
	370														

<210> 51
 <211> 371
 <212> PRT
 <213> Artificial sequence

<220>
 <223> V1delta-CH- hFcB

<220>
 <221> misc_feature

<222> (139)..(139)

<223> Xaa can be any naturally occurring amino acid

<400> 51

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Ala Leu Gly
20 25 30

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
50 55 60

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr Val Ser
65 70 75 80

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
85 90 95

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
100 105 110

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
115 120 125

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys Ser Ser
130 135 140

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
145 150 155 160

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
165 170 175

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His

180

185

190

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 195 200 205

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 210 215 220

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

Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 245 250 255

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 260 265 270

Tyr Thr Leu Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser
 275 280 285

Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 290 295 300

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 305 310 315 320

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val
 325 330 335

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu
 340 345 350

His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 355 360 365

Pro Gly Lys
 370

<210> 52
<211> 371
<212> PRT
<213> Artificial sequence

<220>
<223> Vldelta mut-CH- hFcB

<220>
<221> misc_feature
<222> (139)..(139)
<223> Xaa can be any naturally occurring amino acid

<400> 52

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Ala Leu Gly
20 25 30

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
50 55 60

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr Val Ser
65 70 75 80

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
85 90 95

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
100 105 110

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
115 120 125

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys Ser Ser

130

135

140

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 145 150 155 160

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 165 170 175

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 180 185 190

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 195 200 205

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 210 215 220

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

Lys Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 245 250 255

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 260 265 270

Tyr Thr Leu Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser
 275 280 285

Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 290 295 300

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 305 310 315 320

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val
 325 330 335

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu
340 345 350

His Glu Ala Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
355 360 365

Pro Gly Lys
370

<210> 53
<211> 384
<212> PRT
<213> Artificial sequence

<220>
<223> Vp1-CH- hFcB

<220>
<221> misc_feature
<222> (152)..(152)
<223> Xaa can be any naturally occurring amino acid

<400> 53

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
35 40 45

Thr Ser Gln Leu Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
50 55 60

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
65 70 75 80

Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr Val Ser Trp Asn Ser

85

90

95

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
 100 105 110

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
 115 120 125

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
 130 135 140

Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys Ser Ser Asp Lys Thr
 145 150 155 160

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 165 170 175

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 180 185 190

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 195 200 205

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 210 215 220

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 225 230 235 240

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 245 250 255

Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 260 265 270

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 275 280 285

Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser Leu Ser Cys
290 295 300

Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
305 310 315 320

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
325 330 335

Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp Lys Ser
340 345 350

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala
355 360 365

Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
370 375 380

<210> 54
<211> 384
<212> PRT
<213> Artificial sequence

<220>
<223> Vp1delta-CH- hFcB

<220>
<221> misc_feature
<222> (152)..(152)
<223> Xaa can be any naturally occurring amino acid

<400> 54

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Ala Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro

35

40

45

Thr Ser Gln Leu Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 50 55 60

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
 65 70 75 80

Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr Val Ser Trp Asn Ser
 85 90 95

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
 100 105 110

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
 115 120 125

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
 130 135 140

Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys Ser Ser Asp Lys Thr
 145 150 155 160

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 165 170 175

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 180 185 190

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 195 200 205

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 210 215 220

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 225 230 235 240

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
245 250 255

Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
260 265 270

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
275 280 285

Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser Leu Ser Cys
290 295 300

Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
305 310 315 320

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
325 330 335

Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp Lys Ser
340 345 350

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala
355 360 365

Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
370 375 380

<210> 55
<211> 384
<212> PRT
<213> Artificial sequence

<220>
<223> Vp1delta mut-CH- hFcB

<220>
<221> misc_feature
<222> (152)..(152)
<223> Xaa can be any naturally occurring amino acid

<400> 55

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Ala Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
35 40 45

Thr Ser Gln Leu Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
50 55 60

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
65 70 75 80

Cys Leu Val Lys Asp Tyr Phe Pro Glu Val Thr Val Ser Trp Asn Ser
85 90 95

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
100 105 110

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
115 120 125

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
130 135 140

Thr Lys Val Asp Lys Lys Val Xaa Glu Pro Lys Ser Ser Asp Lys Thr
145 150 155 160

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
165 170 175

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
180 185 190

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
195 200 205

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
210 215 220

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
225 230 235 240

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
245 250 255

Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
260 265 270

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
275 280 285

Pro Pro Ser Arg Cys Glu Leu Thr Lys Asn Gln Val Ser Leu Ser Cys
290 295 300

Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
305 310 315 320

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
325 330 335

Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp Lys Ser
340 345 350

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala
355 360 365

Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
370 375 380

<211> 24
<212> PRT
<213> Artificial sequence

<220>
<223> exemplary trimerization domain

<400> 56

Val Thr Thr Leu Gln Asp Ser Ile Arg Lys Val Thr Glu Glu Asn Lys
1 5 10 15

Glu Leu Ala Asn Glu Leu Arg Arg
20

<210> 57
<211> 197
<212> PRT
<213> Artificial sequence

<220>
<223> vMIPII-CL prime

<400> 57

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
35 40 45

Thr Ser Gln Leu Cys Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Arg
50 55 60

Gly Arg Gln Val Cys Ala Asp Lys Ser Lys Asp Trp Val Lys Lys Leu
65 70 75 80

Met Gln Gln Leu Pro Val Thr Ala Arg Lys Arg Thr Val Ala Ala Pro
85 90 95

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
100 105 110

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
115 120 125

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
130 135 140

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
145 150 155 160

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
165 170 175

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
180 185 190

Asn Arg Gly Glu Cys
195

<210> 58
<211> 147
<212> PRT
<213> Artificial sequence

<220>
<223> V1-CL prime

<400> 58

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Lys Arg Thr Val Ala Ala Pro Ser Val
35 40 45

Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
50 55 60

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
65 70 75 80

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
85 90 95

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
100 105 110

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
115 120 125

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
130 135 140

Gly Glu Cys
145

<210> 59
<211> 147
<212> PRT
<213> Artificial sequence

<220>
<223> Vldleta-CL prime

<400> 59

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Ala Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Lys Arg Thr Val Ala Ala Pro Ser Val
35 40 45

Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
50 55 60

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
65 70 75 80

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
85 90 95

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
100 105 110

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
115 120 125

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
130 135 140

Gly Glu Cys
145

<210> 60
<211> 147
<212> PRT
<213> Artificial sequence

<220>
<223> V1delta mut-CL prime

<400> 60

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Ala Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Lys Arg Thr Val Ala Ala Pro Ser Val
35 40 45

Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
50 55 60

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
65 70 75 80

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
85 90 95

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
100 105 110

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
115 120 125

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
130 135 140

Gly Glu Cys
145

<210> 61
<211> 160
<212> PRT
<213> Artificial sequence

<220>
<223> Vp1-CL prime

<400> 61

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
35 40 45

Thr Ser Gln Leu Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
50 55 60

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
65 70 75 80

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
85 90 95

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
100 105 110

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
115 120 125

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
130 135 140

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
145 150 155 160

<210> 62
<211> 160
<212> PRT
<213> Artificial sequence

<220>
<223> Vp1delta-CL prime

<400> 62

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Ala Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
35 40 45

Thr Ser Gln Leu Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
50 55 60

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
65 70 75 80

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
85 90 95

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
100 105 110

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
115 120 125

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
130 135 140

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
145 150 155 160

<210> 63
<211> 160
<212> PRT
<213> Artificial sequence

<220>
<223> Vp1delta mut-CL prime

<400> 63

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

Tyr Ser Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Ala Leu Gly
20 25 30

Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro
35 40 45

Thr Ser Gln Leu Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
50 55 60

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
65 70 75 80

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
85 90 95

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
100 105 110

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
115 120 125

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
130 135 140

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
145 150 155 160

<210> 64

<211> 108

<212> PRT

<213> Artificial sequence

<220>

<223> exemplary sequence for component CL prime or component CL

<400> 64

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
1 5 10 15

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

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu
35 40 45

Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp
50 55 60

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr
65 70 75 80

Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser
85 90 95

Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 65
<211> 5
<212> PRT
<213> Artificial sequence

<220>
<223> Linker

<400> 65

Gly Gly Gly Gly Ser
1 5

<210> 66
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> Linker

<400> 66

Gly Gly Gly Ser Gly Gly Gly Ser
1 5

<210> 67
<211> 98
<212> PRT
<213> Artificial sequence

<220>

<223> IgG1 Z1 domain

<400> 67

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val

<210> 68

<211> 22

<212> PRT

<213> Artificial sequence

<220>

<223> IgG1 hinge region

<400> 68

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10 15

Pro Glu Leu Leu Gly Gly
20

<210> 69
<211> 103
<212> PRT
<213> Artificial sequence

<220>
<223> IgG1 Z2 domain

<400> 69

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
1 5 10 15

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
20 25 30

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
35 40 45

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
50 55 60

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
65 70 75 80

Glu Tyr Lys Cys Ala Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
85 90 95

Lys Thr Ile Ser Lys Ala Lys
100