

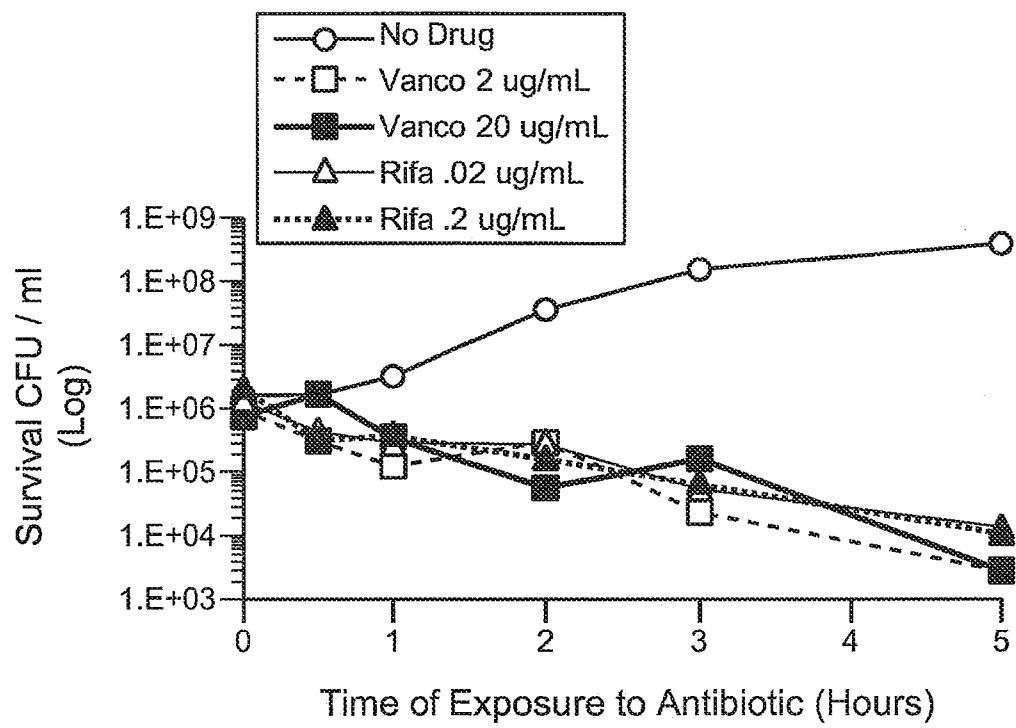


FIG. 1

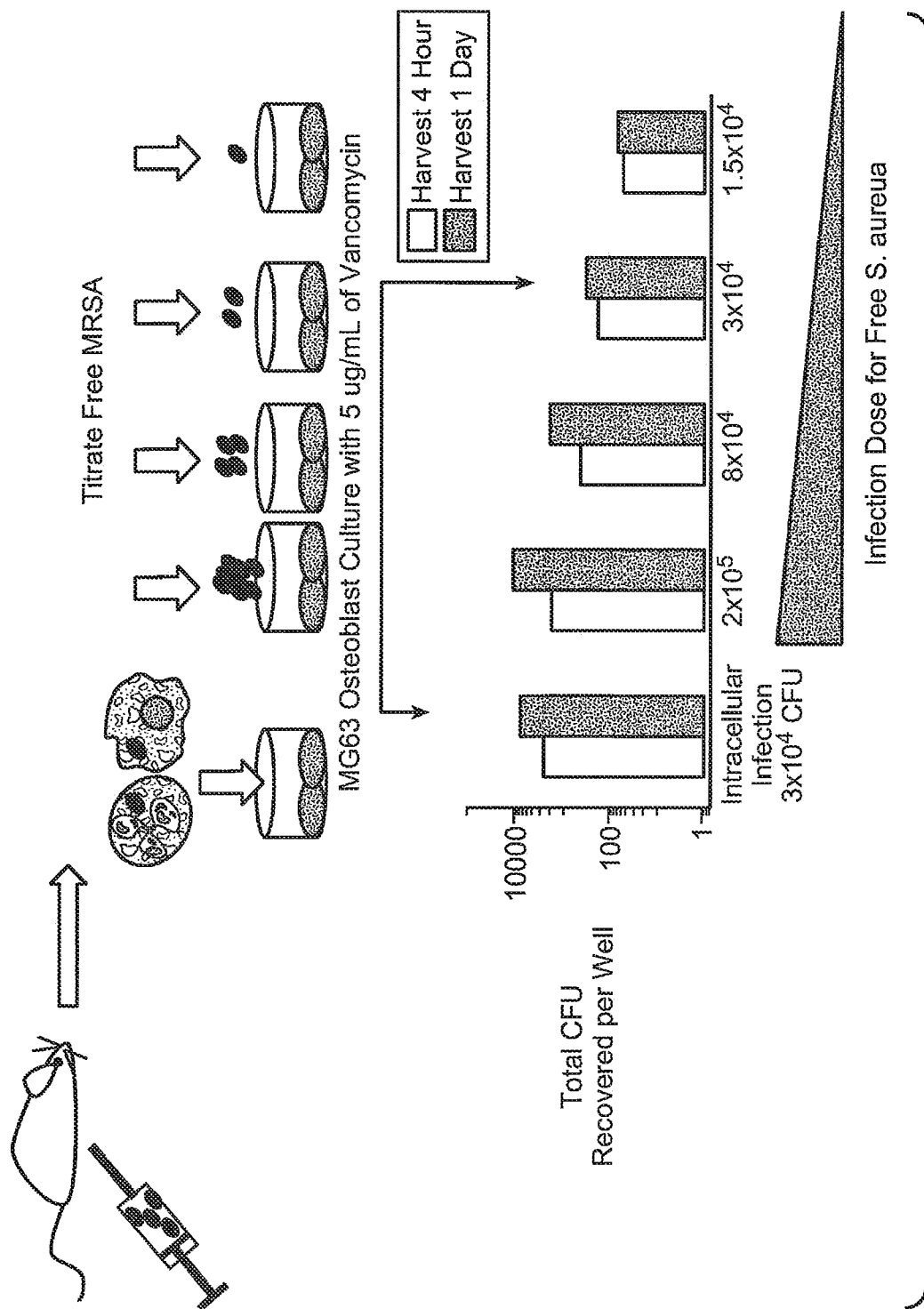
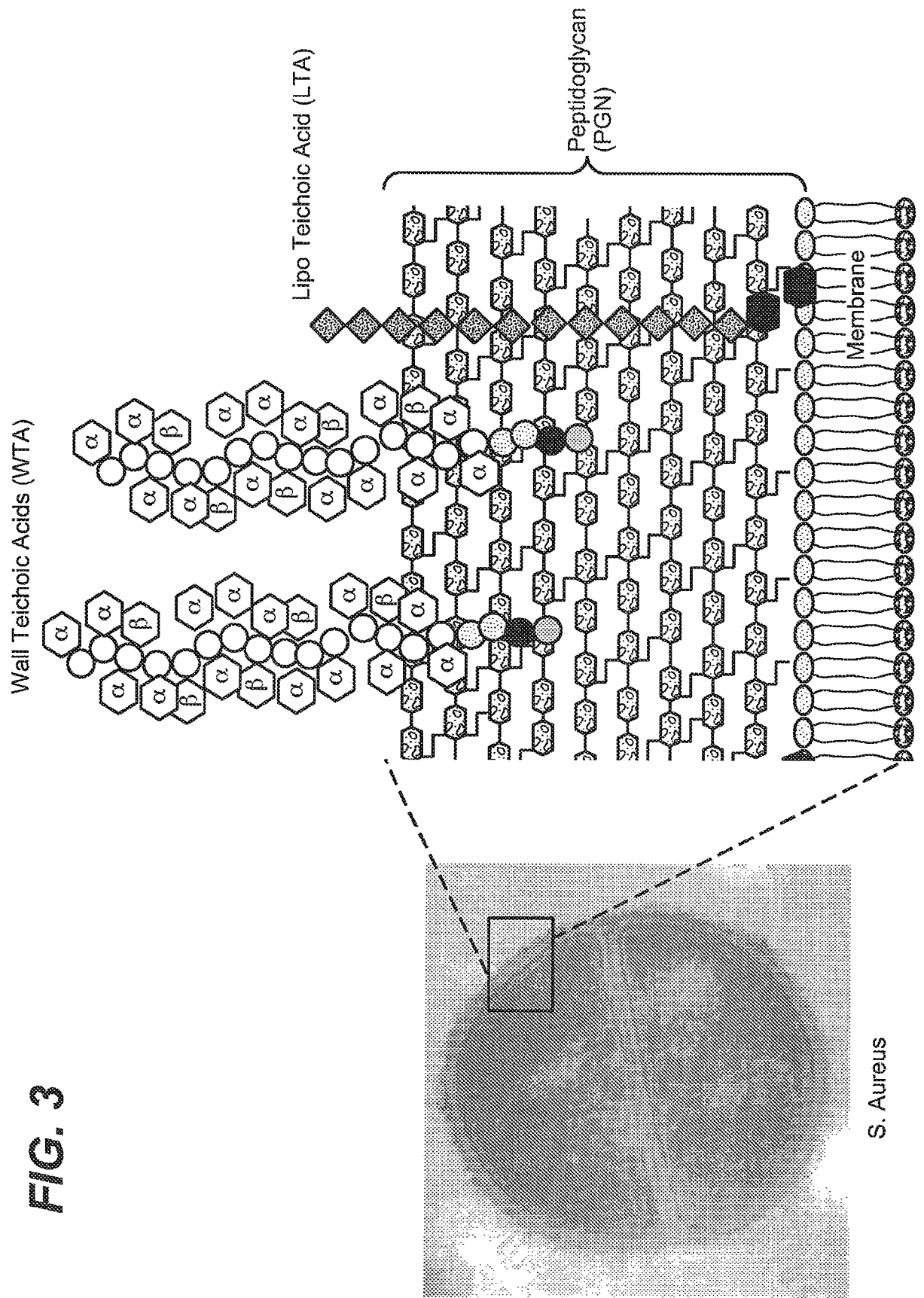


FIG. 2

FIG. 3



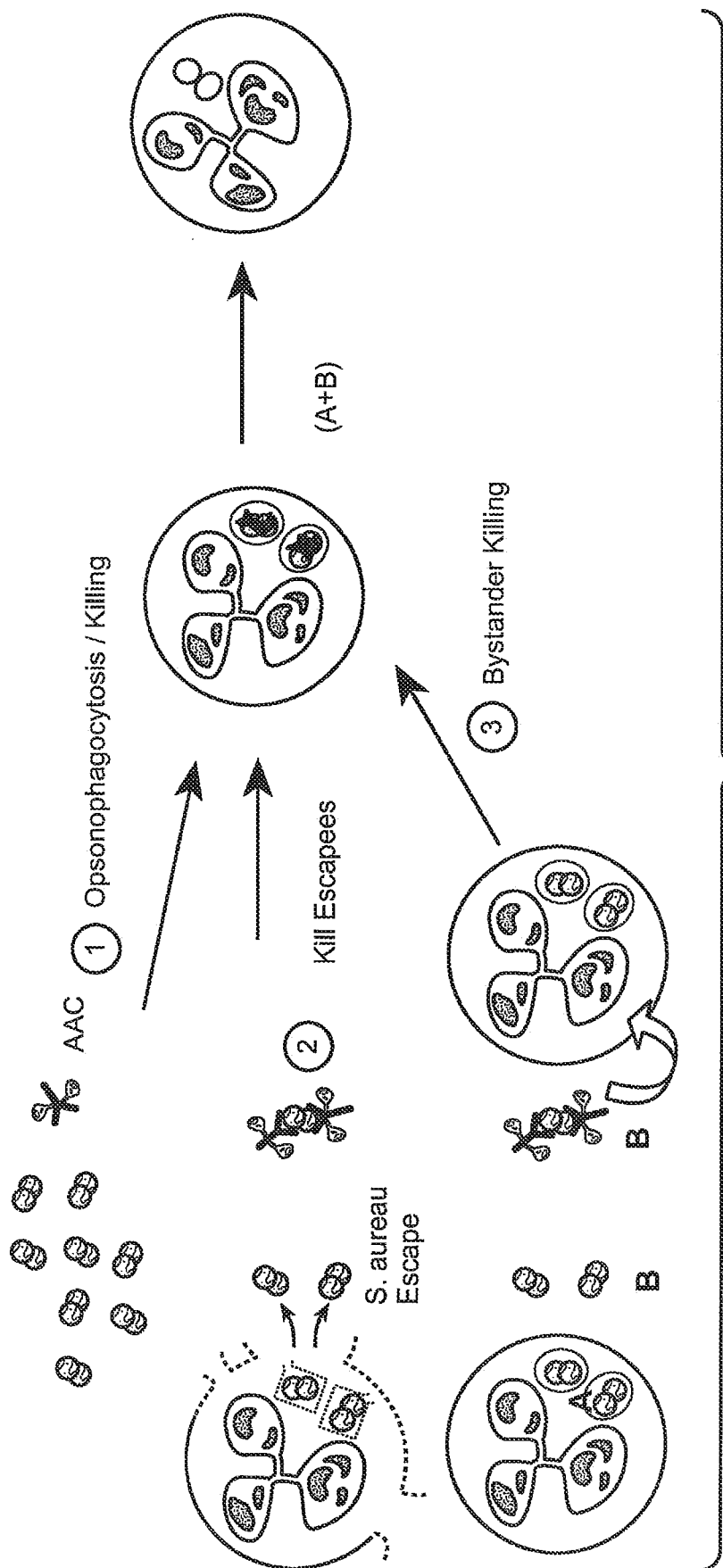


FIG. 5

FIG. 6

FIG. 6A

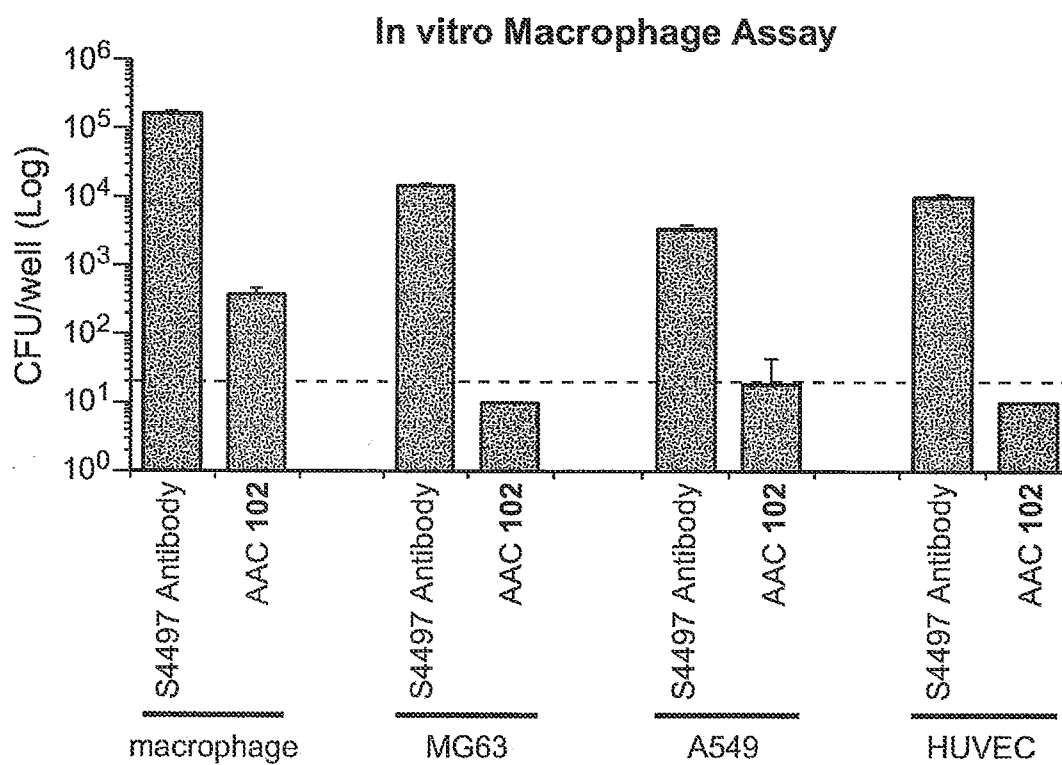
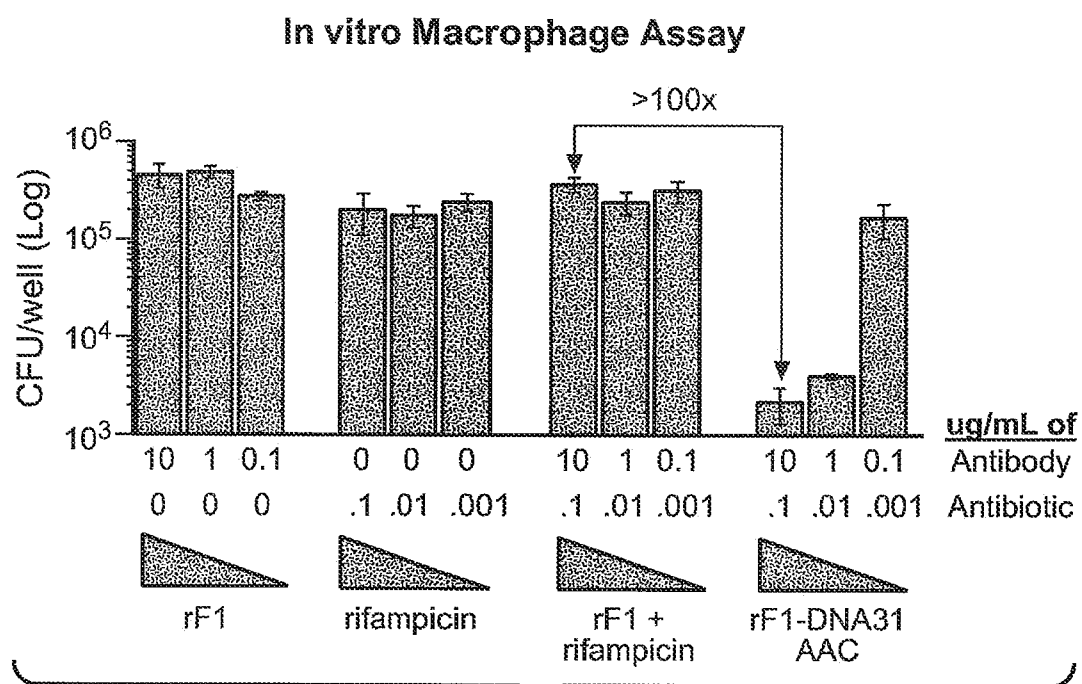
FIG. 6B

FIG. 6A

Antibody	Antigen	GlcNAc	KD(nM)	Antigen Density Ave. Sites Bacterium	Donor	Source Cells	Binding to Coating(s) in Primary Screening Ag (ELISA)
4497	WTA	beta	2.5	50	327	PB/PC	WTA; PGN; CW USA300 stat (iron depl:TSB in 96:4 ratio)
4462	WTA	beta	3.1	43	326	sMBC	WTA; PGN; CW USA300 stat (iron depl:TSB in 96:4 ratio)
4450	WTA	beta			326	sMBC	WTA; PGN; CW USA300 stat (iron depl:TSB in 96:4 ratio)
4487	WTA	beta			327	PB/PC	WTA; PGN; CW USA300 stat (iron depl:TSB in 96:4 ratio)
6078	WTA	beta			349	sMBC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6263	WTA	beta	1.4	22,000	350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6297	WTA	beta	1.1	21,000	350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6239	WTA	beta			350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6292	WTA	beta			350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6232	WTA	beta			350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6259	WTA	beta			350	PB/PC	CW USA300 stat (iron depl:TSB in 96:4 ratio)
6253	WTA	beta			350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6265	WTA	beta			350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)

4461(7574)	WTA	alpha			326	sMBC	CW USA300 stat (iron depl:TSB in 96:4 ratio)
4624(7578)	WTA	alpha	0.4	16	326	sMBC	CW USA300 stat (iron depl:TSB in 96:4 ratio)
4399	WTA	alpha			326	sMBC	CW USA300 stat (iron depl:TSB in 96:4 ratio)
6267	WTA	alpha			350	PB/PC	CW USA300 stat (iron depl:TSB in 96:4 ratio)
rF1	SDR-proteins	?	0.3	1600			
4516(7577)	SDR-proteins	?			327	PB/PC	WTA; PGN; CW USA300 stat (iron depl:TSB in 96:4 ratio)
6234	SDR-proteins	?			350	PB/PC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
6060	SDR-proteins	?			349	sMBC	PGN+WTA (1:1); CW USA300 stat (iron depl:TSB in 96:4 ratio)
4569	LTA	?			327	PB/PC	CW Wood46 stat TSB
4479	PGN				327	PB/PC	WTA; PGN; CW USA300 stat (iron depl:TSB in 96:4 ratio)

FIG. 6B



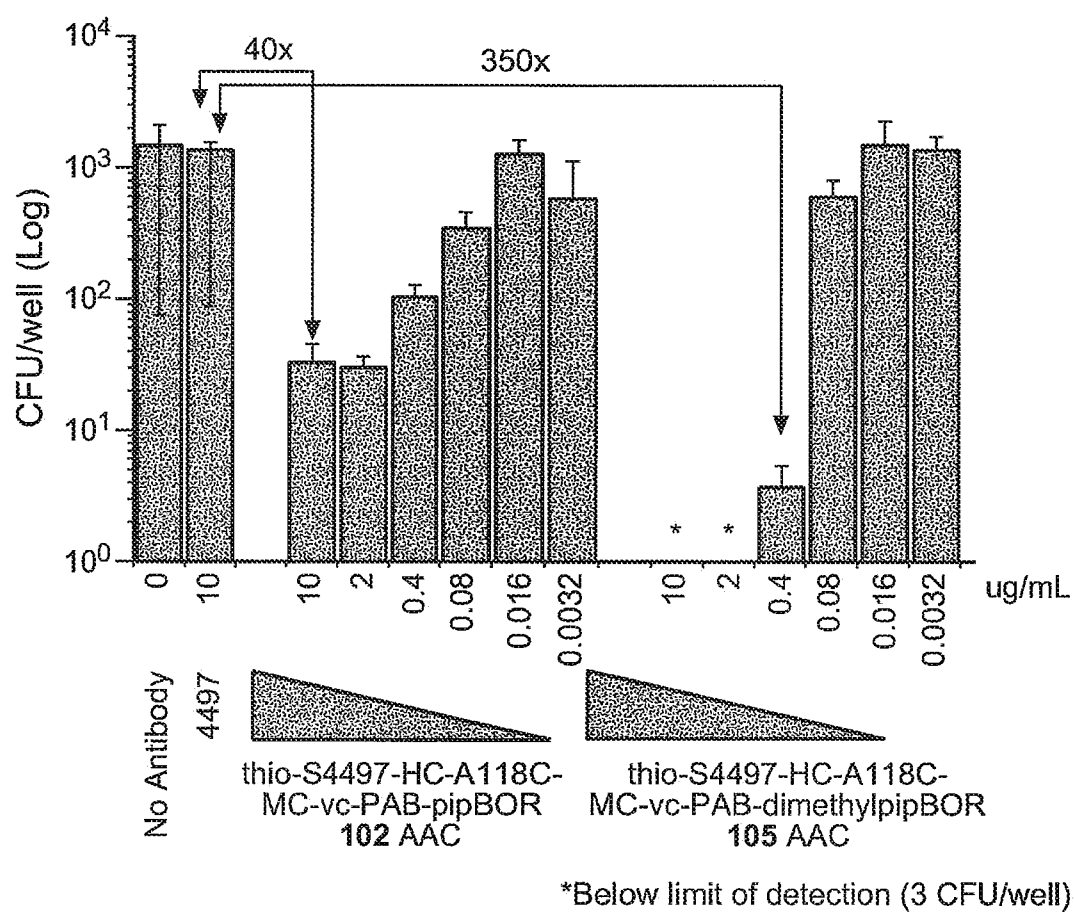


FIG. 7C

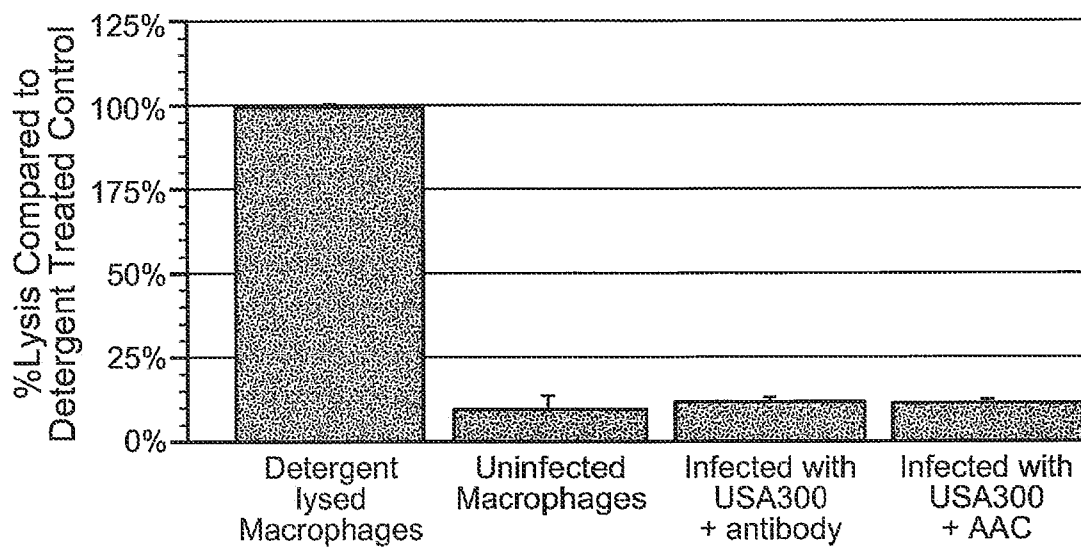


FIG. 7D

Recovery of Live *S. aureus*
from Inside Macrophages

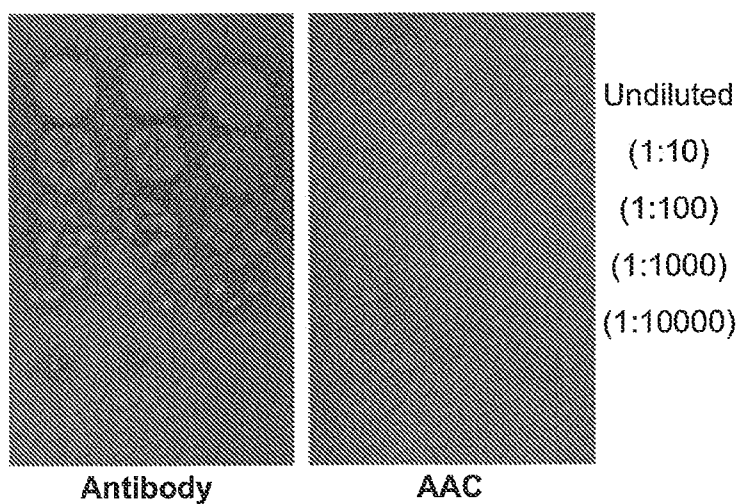
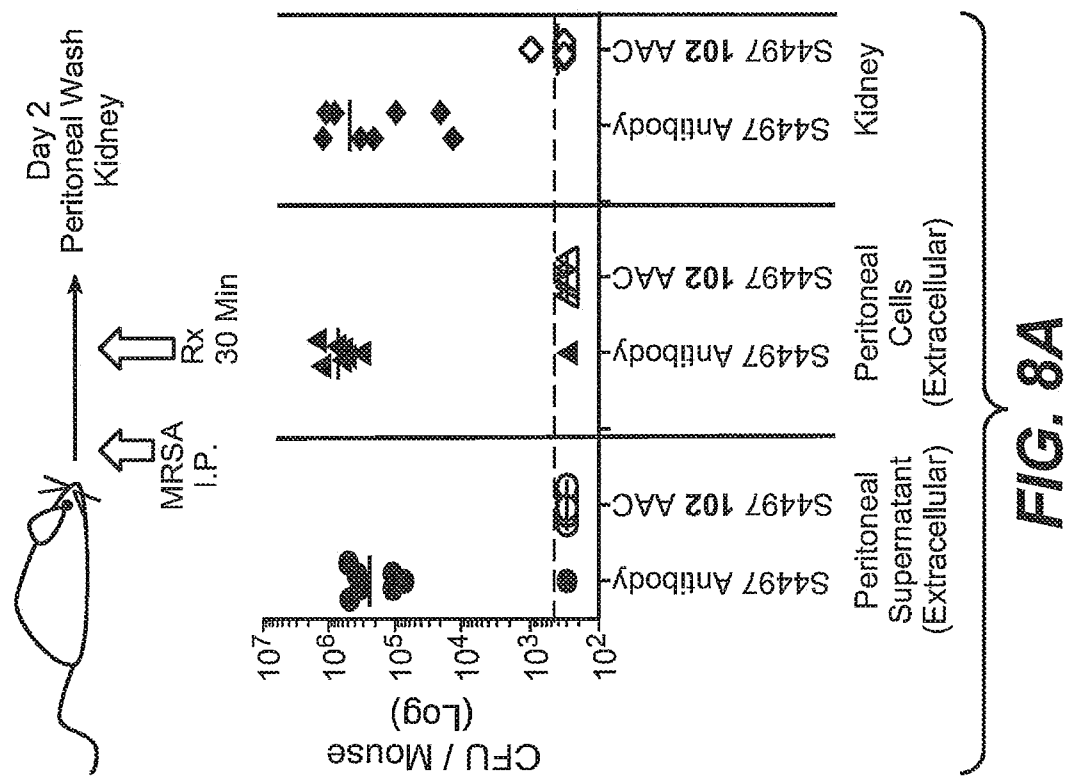
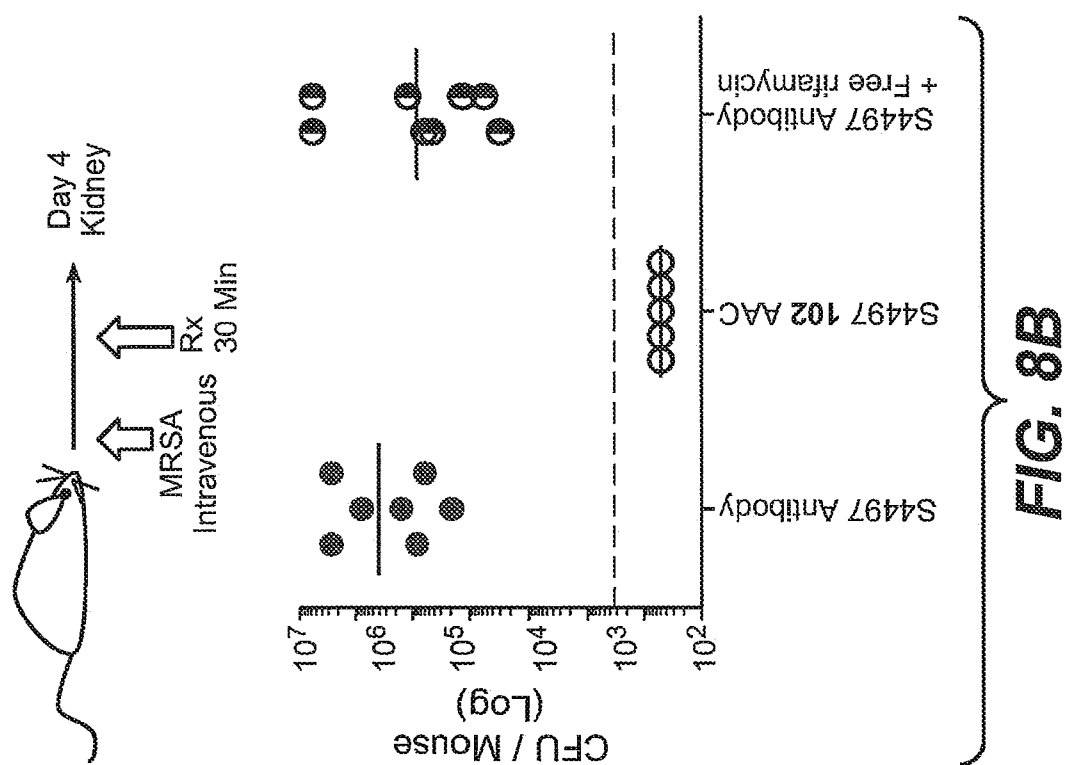
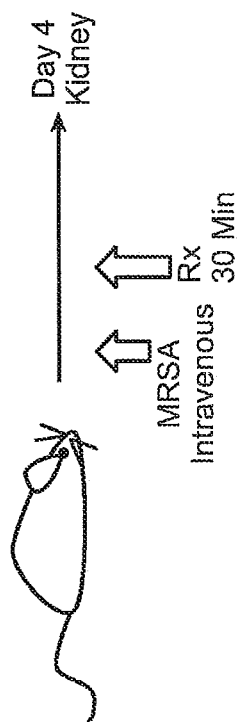


FIG. 7E





p-values from Mann-Whitney Test against 4497 1mg Group

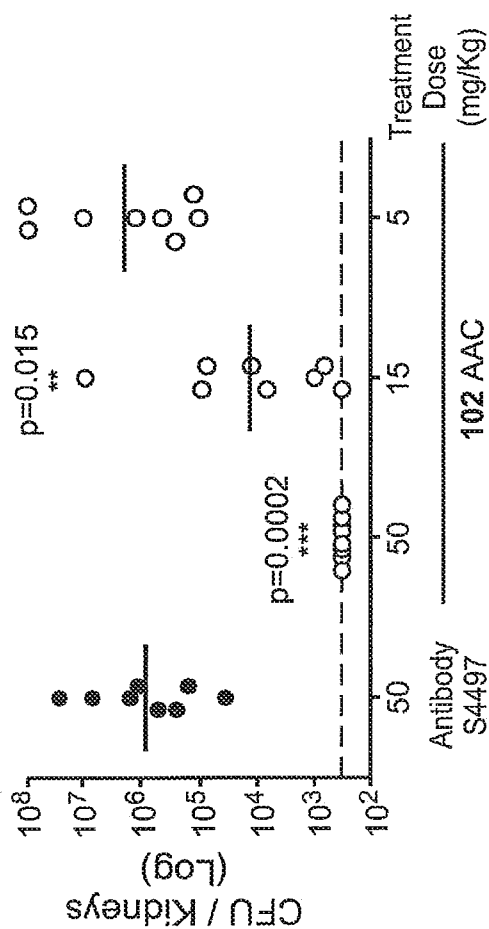
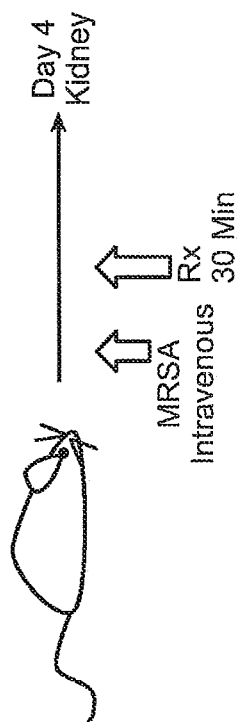


FIG. 9A



p-values from Mann-Whitney Test with 4497 2000ug Group

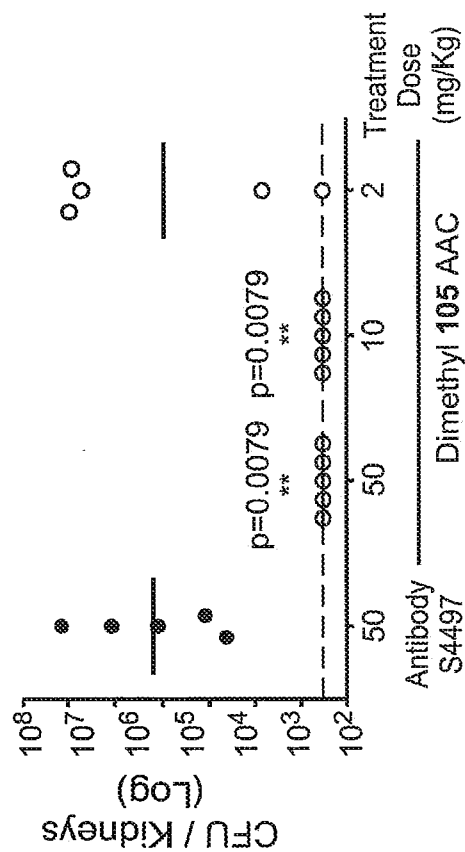
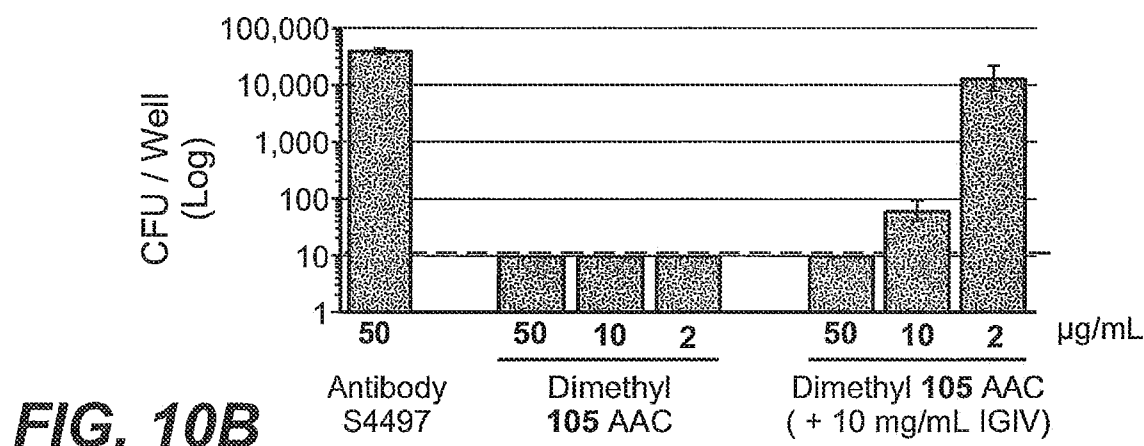
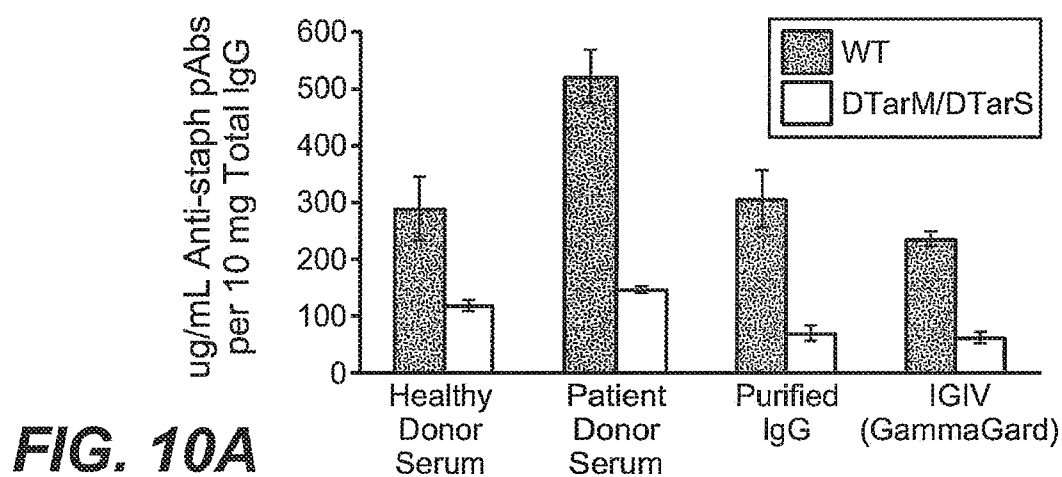
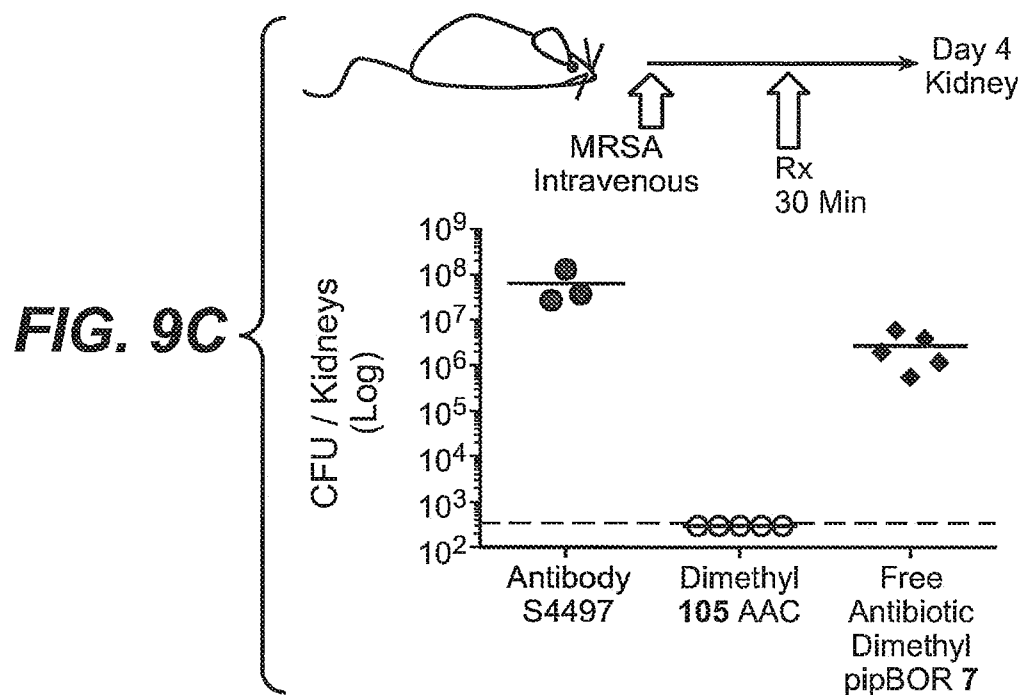
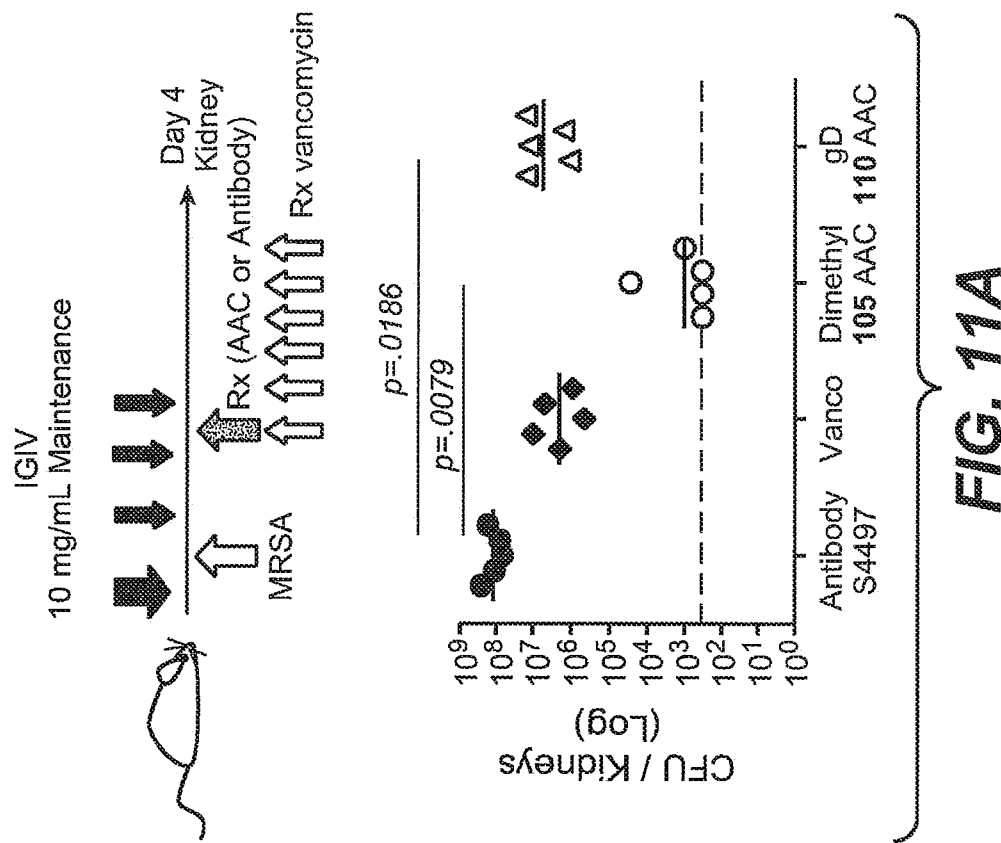
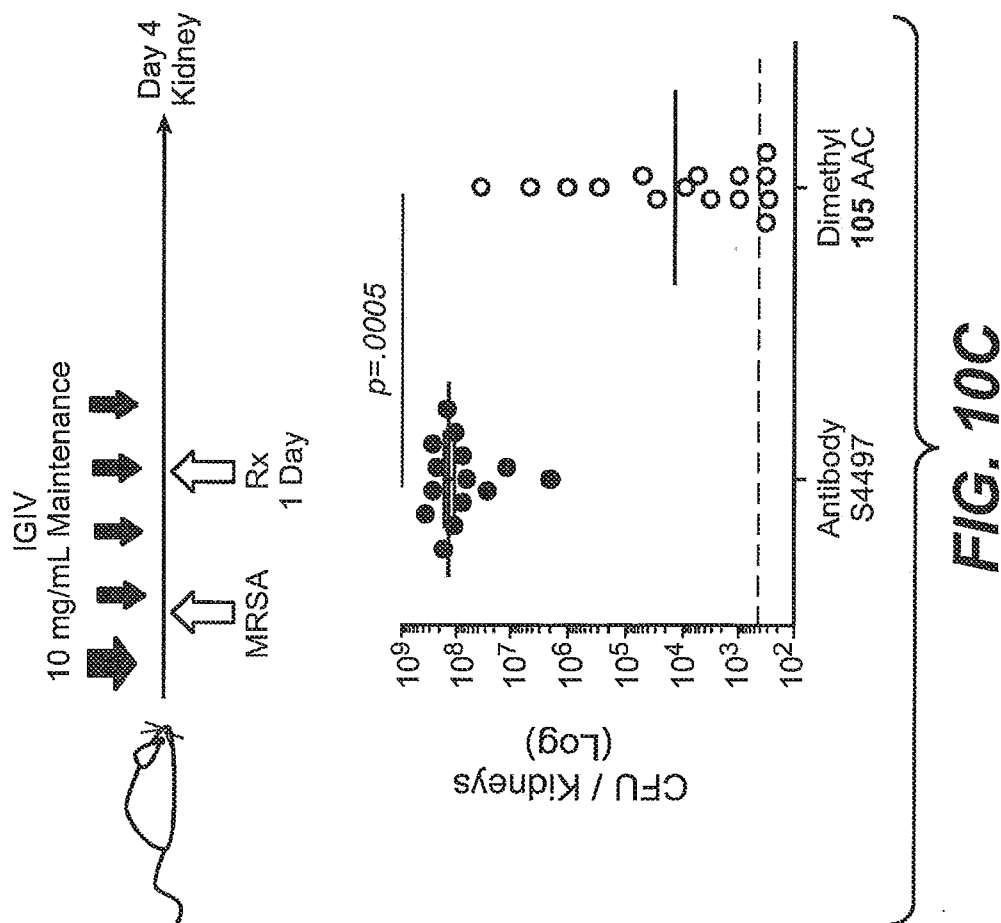


FIG. 9B





Binding of Anti-staph Antibodies to
USA300 from Kidneys (Day 3 IV)

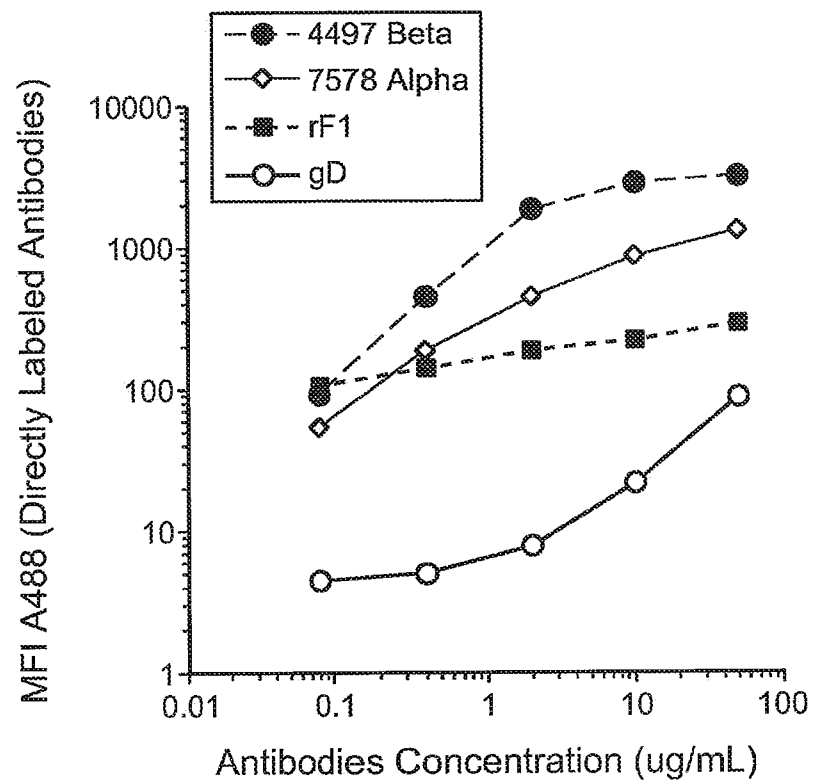


FIG. 11B

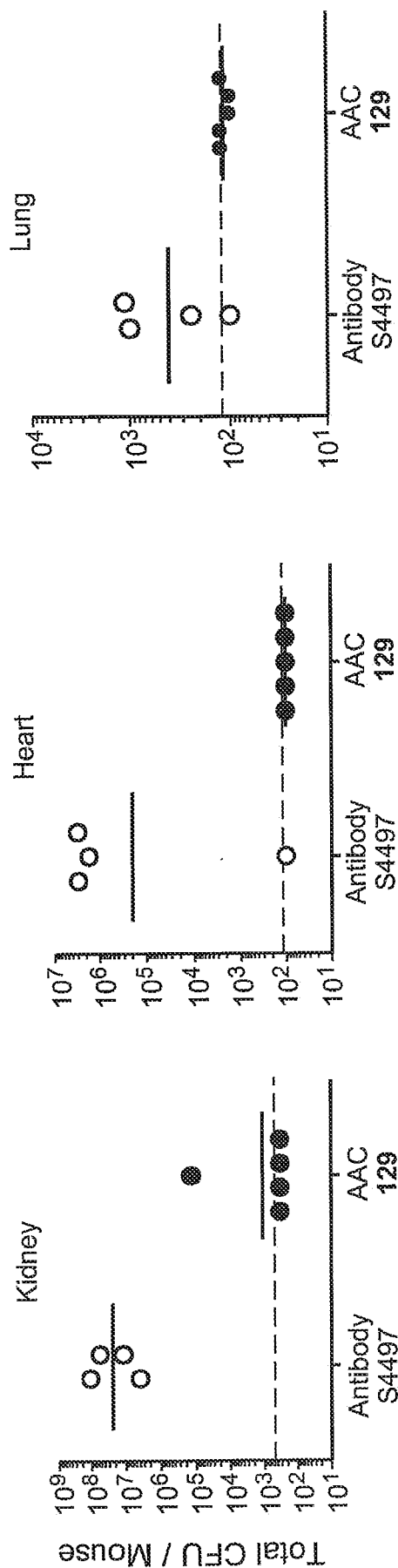
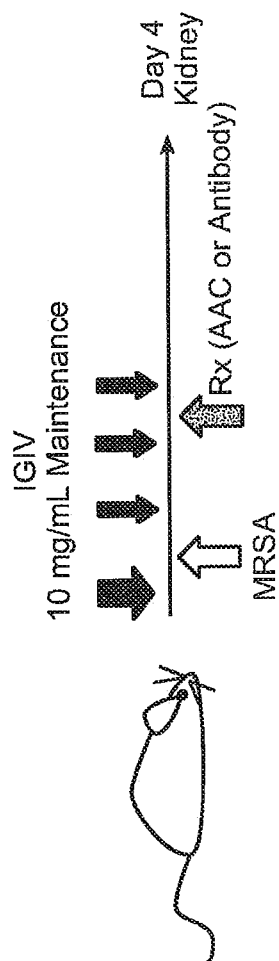


FIG. 11C

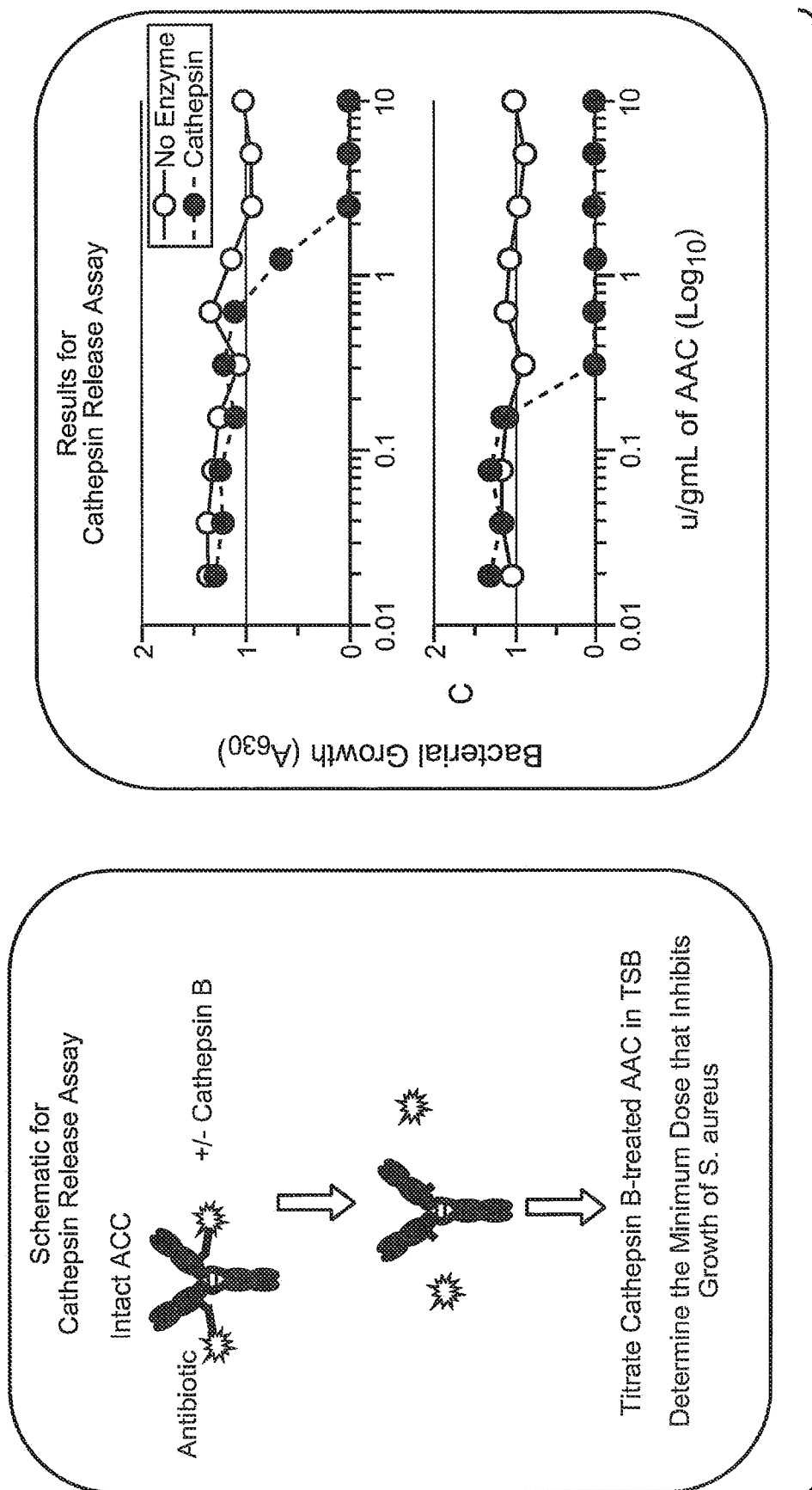


FIG. 12

CDR Sequences According to Kabat Definition are Underlined
Heavy Chain Variable Region

Kabat Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
4461	Q	V	Q	L	V	Q	S	G	A	E	V	R	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	S	F	T	D	Y	Y	M	H	W	V	R	Q	A	P	G
4624	Q	V	Q	L	Q	Q	S	R	V	E	V	K	R	P	G	T	S	V	K	V	S	C	K	T	S	G	Y	T	F	S	D	Y	Y	I	H	W	V	R	L	A	P	G
4399	E	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	T	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	D	Y	Y	I	H	W	V	R	L	A	P	G
6267	E	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	E	S	L	K	I	S	C	K	G	S	G	Y	S	F	T	S	Y	W	I	G	W	V	R	Q	M	P	G

Kabat Number	CDR H2 - Contact										CDR H2 - Kabat																															
	CDR H2 - Chothia										CDR H3 - Contact																															
43	44	45	46	47	48	49	50	51	52	52a	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	82a	
4461	Q	G	L	E	W	M	G	W	I	N	P	K	S	G	G	T	N	Y	A	Q	R	F	Q	G	R	V	T	M	T	G	D	T	S	I	S	A	A	Y	M	D	L	A
4624	Q	G	L	E	L	M	G	W	I	N	P	N	T	G	G	T	Y	Y	A	Q	K	F	R	D	R	V	T	M	T	R	D	T	S	I	A	T	A	Y	L	E	M	S
4399	Q	G	L	E	L	M	G	W	I	N	P	N	T	G	G	T	N	Y	A	Q	K	F	Q	G	R	V	T	M	T	R	D	T	S	I	A	T	A	Y	M	E	L	S
6267	K	G	L	E	W	M	G	I	I	H	P	G	D	S	K	T	R	Y	S	P	S	F	Q	G	Q	V	T	I	S	A	D	K	S	I	S	T	A	Y	L	Q	W	N

Kabat Number	CDR H3 - Contact										CDR H3 - Chothia																														
	CDR H3 - Kabat										CDR H3 - Chothia																														
32b 82c	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	100a	100b	100c	100d	100e	100f	100g	100h	100i	100j	100k	100l	100m	100n	100o	100p	100q	100r	100s	100t	100u	101	
4461	S	L	T	S	D	D	T	A	V	Y	C	V	K	D	C	G	S	G	G	L	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	D
4624	S	L	T	S	D	D	T	A	V	Y	C	A	K	D	C	G	R	G	G	L	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	D	
4399	S	L	T	S	D	D	T	A	V	Y	C	A	K	D	C	G	N	A	G	L	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	D	
6267	S	L	K	A	S	D	T	A	M	Y	C	A	R	L	Y	C	S	G	G	S	C	Y	S	D	R	A	F	S	S	L	G	A	G	G	Y	Y	Y	Y	G	M	G

Kabat Number	102	103	104	105	106	107	108	109	110	111	112	113
4461	F	W	G	Q	G	T	T	V	T	V	S	S
4624	I	W	G	P	G	T	M	V	T	V	S	S
4399	I	W	G	Q	G	T	T	V	T	V	S	S
6267	V	W	G	Q	G	T	T	V	T	V	S	S

FIG. 13B

Antibody	CDR L1	CDR L2	CDR L3	CDR H1	CDR H2	CDR H3
6078	RASQTISGWLA (SEQ ID NO:33)	KASTLES (SEQ ID NO:34)	QQYKSYFEN (SEQ ID NO:35)	SYDIN (SEQ ID NO:36)	WMNANSNGNTGYAQKFQG (SEQ ID NO:37)	SSILVRGALGRYFDL (SEQ ID NO:38)
6263	RASQTISGWLA (SEQ ID NO:39)	KASTLES (SEQ ID NO:40)	QQYKSYFEN (SEQ ID NO:41)	SYDIN (SEQ ID NO:42)	WMNANSNGNTGYAQKFQG (SEQ ID NO:43)	SSILVRGALGRYFDL (SEQ ID NO:44)
4450	RASQFVSRSTSLA (SEQ ID NO:45)	ETSSRAT (SEQ ID NO:46)	HKYGGSPRT (SEQ ID NO:47)	NYDFI (SEQ ID NO:48)	WMNPNSYNTGYGQKFQG (SEQ ID NO:49)	AVRGQLLSEY (SEQ ID NO:50)
6297	RASQSVSSSYLA (SEQ ID NO:51)	DASSRAT (SEQ ID NO:52)	QKYGSTPRP (SEQ ID NO:53)	SYDIN (SEQ ID NO:54)	WMNPNSGNTNYAQRFGG (SEQ ID NO:55)	ERWSKDTGHHYYYGMDV (SEQ ID NO:56)
6239	RASLDITNHLA (SEQ ID NO:57)	EASILQS (SEQ ID NO:58)	EKCNSTPRT (SEQ ID NO:59)	NYDIN (SEQ ID NO:60)	WMNPSSGRTGYAPKFRG (SEQ ID NO:61)	GGGYDSSSGNYHISGLDV (SEQ ID NO:62)
6232	RASQSVGAIFYLA (SEQ ID NO:63)	GVSNRAT (SEQ ID NO:64)	QLYTSSRALT (SEQ ID NO:65)	AYAMN (SEQ ID NO:66)	SITKNSDSLYYADSVKG (SEQ ID NO:67)	LAARIMATDY (SEQ ID NO:68)
6259	RASQGIIRNGLG (SEQ ID NO:69)	PASTLES (SEQ ID NO:70)	LQDHNYPT (SEQ ID NO:71)	YYSMI (SEQ ID NO:72)	SIDSSSRYYADSVKG (SEQ ID NO:73)	DGDDILSVYRGSGRPFYD (SEQ ID NO:74)
6292	RASQGIIRNGLG (SEQ ID NO:75)	PASTLES (SEQ ID NO:76)	LQDHNYPPS (SEQ ID NO:77)	YYSMI (SEQ ID NO:78)	SIDSSSRYYTYTDSVKG (SEQ ID NO:79)	DGDDILSVYQGSGRPFYD (SEQ ID NO:80)
4462	RASQSVRTNVA (SEQ ID NO:81)	GASTRAS (SEQ ID NO:82)	LQYNTWPRT (SEQ ID NO:83)	TNDMS (SEQ ID NO:84)	TIIGIDDTTHYADSVRG (SEQ ID NO:85)	NSGIYSF (SEQ ID NO:86)
6265	RASQDIGSSLA (SEQ ID NO:87)	ATSTLQS (SEQ ID NO:88)	QQLNNYVHS (SEQ ID NO:89)	DYAMG (SEQ ID NO:90)	VVTGHSYRTHYADSVKG (SEQ ID NO:91)	RIWSYGDDSFYD (SEQ ID NO:92)
6253	RASQSIGDRLA (SEQ ID NO:93)	WASNLEG (SEQ ID NO:94)	QQYKSQWS (SEQ ID NO:95)	SYAMN (SEQ ID NO:96)	YISSIETIYYADSVKG (SEQ ID NO:97)	DRLVDVPLSSPNS (SEQ ID NO:98)
4497	KSSQSFRTSRNKNILLN (SEQ ID NO:99)	WASTRKS (SEQ ID NO:100)	QQYFSPPT (SEQ ID NO:101)	SFWMH (SEQ ID NO:102)	FTNNEGTTAYADSVRG (SEQ ID NO:103)	GDGGLDD (SEQ ID NO:104)
4487	RASQFTNHYLN (SEQ ID NO:105)	VASNLOS (SEQ ID NO:106)	QQSYRTPT (SEQ ID NO:107)	SGYIN (SEQ ID NO:108)	YILSGAHTDIKASLGS (SEQ ID NO:109)	SGVYSKSLDV (SEQ ID NO:110)

6263 has same CDR sequences as 6078.

FIG. 14

Light Chain

CDR L2 - Contact	
CDR L2 - Chothia	
CDR L2 - Kabat	

CDR L3 - Contact
CDR L3 - Chothia
CDR L3 - Kabat

FIG. 15A-1

Kabat Number	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126
6078.v3HC-Cys	I	Y	Y	C	Q	Q	Y	K	S	Y	S	F	N	F	G	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	S	D	E	Q	L	K
6078.v3LC-Cys	I	Y	Y	C	Q	Q	Y	K	S	Y	S	F	N	F	G	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	S	D	E	Q	L	K
6078.v4HC-Cys	I	Y	Y	C	Q	Q	Y	K	S	Y	S	F	N	F	G	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	S	D	E	Q	L	K
6078.v4LC-Cys	I	Y	Y	C	Q	Q	Y	K	S	Y	S	F	N	F	G	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	S	D	E	Q	L	K
6078.v4HCLC-Cys	I	Y	Y	C	Q	Q	Y	K	S	Y	S	F	N	F	G	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	S	D	E	Q	L	K

Eu Number	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168
6078	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v2HC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v2LC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v3HC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v3LC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v4HC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v4LC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S
6078.v4HCLC-Cys	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S	V	T	E	Q	D	S

Eu Number	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
6078	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v2HC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v2LC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v3HC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v3LC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v4HC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v4LC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N
6078.v4HCLC-Cys	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P	V	T	K	S	F	N

Eu Number	211	212	213	214
6078	R	G	E	C
6078.v2HC-Cys	R	G	E	C
6078.v2LC-Cys	R	G	E	C
6078.v3HC-Cys	R	G	E	C
6078.v3LC-Cys	R	G	E	C
6078.v4HC-Cys	R	G	E	C
6078.v4LC-Cys	R	G	E	C
6078.v4HCLC-Cys	R	G	E	C

FIG. 15A-2

Heavy Chain

Kabat Number	CDR H1 - Contact																																									
	CDR H1 - Chothia																CDR H1 - Kabat																									
6078	Q	M	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v2HC-Cys	E	M	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v2LC-Cys	E	M	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v3HC-Cys	E	I	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v3LC-Cys	E	I	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v4HC-Cys	E	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v4LC-Cys	E	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G
6078.v4HCLC-Cys	E	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G

Kabat Number	CDR H2 - Contact																																									
	CDR H2 - Chothia																CDR H2 - Kabat																									
	43	44	45	46	47	48	49	50	51	52	52a	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	82a
6078	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v2HC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v2LC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v3HC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v3LC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v4HC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v4LC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S
6078.v4HCLC-Cys	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S

FIG. 15B-1

		CDR H3 - Contact																			
		CDR H3 - Chothia																			
		CDR H3 - Kabat																			
Kabat Number		82b	82c	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
6078	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v2HC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v2LC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v3HC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v3LC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v4HC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v4LC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R
6078.v4HCLC-Cys	S	L	R	S	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R

Cons.

Eu Number		120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
6078	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v2HC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v2LC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v3HC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v3LC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v4HC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v4LC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T
6078.v4HCLC-Cys	T	K	G	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T

Eu Number		162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181
6078	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v2HC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v2LC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v3HC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v3LC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v4HC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v4LC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S
6078.v4HCLC-Cys	A	L	T	S	G	V	H	T	F	P	A	V	L	L	Q	S	S	G	L	Y	S

FIG. 15B-2

Eu Number 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245

6078 H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v2HC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v2LC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v3HC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v3LC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v4HC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v4LC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

6078.v4HCLC-Cys H K P S N T K V D K K K V E P K S C D K T H T C P P P C P A P E L L G G P S V F L F P P P

Eu Number 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287

6078 K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v2HC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v2LC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v3HC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v3LC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v4HC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v4LC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

6078.v4HCLC-Cys K P K D T L M I S R R T P E V T C V V D V S H E D P E V K F N W Y V D G V E V H N A

Eu Number 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329

6078 K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v2HC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v2LC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v3HC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v3LC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v4HC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v4LC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

6078.v4HCLC-Cys K T K K P R E E E Q Y V N S T Y R V V S V L T V L H Q D W L N G K E Y K C K V S N K A L P

FIG. 15B-3

Eu Number	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	
6078	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v2HC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v2LC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v3HC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v3LC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v4HC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v4LC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G
6078.v4HCLC-Cys	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	V	T	L	P	P	P	S	R	E	E	E	T	K	N	Q	V	S	L	T	C	L	V	K	G

Eu Number	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413
6078	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v2HC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v2LC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v3HC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v3LC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v4HC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v4LC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D
6078.v4HCLC-Cys	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	V	S	K	L	T	V	D

Eu Number	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446
6078	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v2HC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v2LC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v3HC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v3LC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v4HC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v4LC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
6078.v4HCLC-Cys	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G

FIG. 15B-4

Kabat Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	27a	27b	27c	27d	27e	27f	28	29	30	31	32	33	34	35	36	CDR H1 - Contact	
																																											CDR L1 - Chothia	
																																											CDR L1 - Kabat	
4497	D	I	Q	L	T	Q	S	P	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	K	S	S	Q	S	I	F	R	T	S	R	N	K	N	L	L	N	W	Y		
4497.v8-HC-Cys	D	I	Q	L	T	Q	S	P	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	K	S	S	Q	S	I	F	R	T	S	R	N	K	N	L	L	N	W	Y		
4497.v8-LC-Cys	D	I	Q	L	T	Q	S	P	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	K	S	S	Q	S	I	F	R	T	S	R	N	K	N	L	L	N	W	Y		
4497.v8-HCLC-Cys	D	I	Q	L	T	Q	S	P	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	K	S	S	Q	S	I	F	R	T	S	R	N	K	N	L	L	N	W	Y		

CDR L2 - Chothia	
CDR L2 - Kabat	

Kabat Number	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	
4497	Q	Q	R	P	G	Q	P	P	R	L	L	I	H	W	A	S	T	R	K	S	G	V	P	D	R	R	F	S	G	S	G	F	G	T	D	F	T	L	T	I	T	S	L
4497 v8-HC-Cys	Q	Q	R	P	G	Q	P	P	R	L	L	I	H	W	A	S	T	R	K	S	G	V	P	D	R	R	F	S	G	S	G	F	G	T	D	F	T	L	T	I	T	S	L
4497 v8-IC-Cys	Q	Q	R	P	G	Q	P	P	R	L	L	I	H	W	A	S	T	R	K	S	G	V	P	D	R	R	F	S	G	S	G	F	G	T	D	F	T	L	T	I	T	S	L
4497 v8-HC1C-Cys	Q	Q	R	P	G	Q	P	P	R	L	L	I	H	W	A	S	T	R	K	S	G	V	P	D	R	R	F	S	G	S	G	F	G	T	D	F	T	L	T	I	T	S	L

CDRL3 - Chothia

Kabat Number	CDR L3 - Kabat		Constant Region, Eu Number																																								
	CDR L3	CDR L3 - Kabat	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
4497	Q	A	E	D	V	A	I	Y	Y	C	Q	Q	Y	F	S	P	P	Y	T	F	G	Q	G	T	K	L	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	
4497.v8-HC-Cys	Q	A	E	D	V	A	I	Y	Y	C	Q	Q	Y	F	S	P	P	Y	T	F	G	Q	G	T	K	L	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	
4497.v8-LC-Cys	Q	A	E	D	V	A	I	Y	Y	C	Q	Q	Y	F	S	P	P	Y	T	F	G	Q	G	T	K	L	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	
4497.v8-HCLC-Cys	Q	A	E	D	V	A	I	Y	Y	C	Q	Q	Y	F	S	P	P	Y	T	F	G	Q	G	T	K	L	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P	P	

FIG. 16A-1

Eu Number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162				
4497	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S				
4497.v8-HC-Cys	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S				
4497.v8-LC-Cys	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S				
4497.v8-HCLC-Cys	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E	S				
Eu Number	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204				
4497	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P				
4497.v8-HC-Cys	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P				
4497.v8-LC-Cys	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P				
4497.v8-HCLC-Cys	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S	P				
Eu Number	205	206	207	208	209	210	211	212	213	214																																				
4497	V	T	K	S	F	N	R	G	E	C																																				
4497.v8-HC-Cys	V	T	K	S	F	N	R	G	E	C																																				
4497.v8-LC-Cys	[C]	T	K	S	F	N	R	G	E	C																																				
4497.v8-HCLC-Cys	[C]	T	K	S	F	N	R	G	E	C																																				

FIG. 16A-2

Heavy Chain

Kabat Number	CDR H1 - Contact																																								
	CDR H1 - Chothia																																								
	CDR H1 - Kabat																																								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
4497	E	V	Q	L	V	E	S	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	S	A	S	G	F	S	F	N	S	F	W	M	H	W	V	R	Q	V	P	G
4497.v8-HC-Cys	E	V	Q	L	V	E	S	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	S	A	S	G	F	S	F	N	S	F	W	M	H	W	V	R	Q	V	P	G
4497.v8-LC-Cys	E	V	Q	L	V	E	S	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	S	A	S	G	F	S	F	N	S	F	W	M	H	W	V	R	Q	V	P	G
4497.v8-HCLC-Cys	E	V	Q	L	V	E	S	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	S	A	S	G	F	S	F	N	S	F	W	M	H	W	V	R	Q	V	P	G

Kabat Number	CDR H2 - Contact																																									
	CDR H2 - Chothia																																									
	CDR H2 - Kabat																																									
	43	44	45	46	47	48	49	50	51	52	52a	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	82a
4497	K	G	L	V	W	I	S	F	T	N	N	E	G	T	T	T	A	Y	A	D	S	V	R	G	R	F	I	I	S	R	D	N	A	K	N	T	L	Y	L	E	M	N
4497.v8-HC-Cys	K	G	L	V	W	I	S	F	T	N	N	E	G	T	T	T	A	Y	A	D	S	V	R	G	R	F	I	I	S	R	D	N	A	K	N	T	L	Y	L	E	M	N
4497.v8-LC-Cys	K	G	L	V	W	I	S	F	T	N	N	E	G	T	T	T	A	Y	A	D	S	V	R	G	R	F	I	I	S	R	D	N	A	K	N	T	L	Y	L	E	M	N
4497.v8-HCLC-Cys	K	G	L	V	W	I	S	F	T	N	N	E	G	T	T	T	A	Y	A	D	S	V	R	G	R	F	I	I	S	R	D	N	A	K	N	T	L	Y	L	E	M	N

Kabat Number	CDR H3 - Contact										CDR H3 - Chothia																				CDR H3 - Kabat																				Constant Region, Eu Number																			
82b	82c	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	101	102	103	104	105	106	107	108	109	110	111	112	113	118	119	120	121	122	123	124	125	126	127																													
4497	N	L	R	G	E	D	T	A	V	Y	Y	C	A	R	G	D	G	G	L	D	D	W	G	Q	G	T	L	V	T	V	S	S	S	A	S	T	K	G	P	S	V	F	P																											
4497.v8-HC-Cys	N	L	R	G	E	D	T	A	V	Y	Y	C	A	R	G	D	G	G	L	D	D	W	G	Q	G	T	L	V	T	V	S	S	S	C	S	T	K	G	P	S	V	F	P																											
4497.v8-LC-Cys	N	L	R	G	E	D	T	A	V	Y	Y	C	A	R	G	D	G	G	L	D	D	W	G	Q	G	T	L	V	T	V	S	S	S	A	S	T	K	G	P	S	V	F	P																											
4497.v8-HCLC-Cys	N	L	R	G	E	D	T	A	V	Y	Y	C	A	R	G	D	G	G	L	D	D	W	G	Q	G	T	L	V	T	V	S	S	S	C	S	T	K	G	P	S	V	F	P																											

FIG. 16B-1

Eu Number	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169
4497	L	A	P	S	S	K	S	T	S	G	G	T	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S	G	V	H	T
4497.v8-HC-Cys	L	A	P	S	S	K	S	T	S	G	G	T	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S	G	V	H	T
4497.v8-LC-Cys	L	A	P	S	S	K	S	T	S	G	G	T	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S	G	V	H	T
4497.v8-HCLC-Cys	L	A	P	S	S	K	S	T	S	G	G	T	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S	G	V	H	T
Eu Number	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211
4497	F	P	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P	S	S	S	L	G	T	Q	T	Y	I	C	N	V	N	H	K	P	S	N	T	K	V
4497.v8-HC-Cys	F	P	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P	S	S	S	L	G	T	Q	T	Y	I	C	N	V	N	H	K	P	S	N	T	K	V
4497.v8-LC-Cys	F	P	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P	S	S	S	L	G	T	Q	T	Y	I	C	N	V	N	H	K	P	S	N	T	K	V
4497.v8-HCLC-Cys	F	P	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P	S	S	S	L	G	T	Q	T	Y	I	C	N	V	N	H	K	P	S	N	T	K	V
Eu Number	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253
4497	D	K	K	V	E	P	K	S	C	D	K	T	H	T	C	P	P	C	P	A	P	E	L	L	G	G	P	S	V	F	L	F	P	P	K	P	K	D	T	L	M	I
4497.v8-HC-Cys	D	K	K	V	E	P	K	S	C	D	K	T	H	T	C	P	P	C	P	A	P	E	L	L	G	G	P	S	V	F	L	F	P	P	K	P	K	D	T	L	M	I
4497.v8-LC-Cys	D	K	K	V	E	P	K	S	C	D	K	T	H	T	C	P	P	C	P	A	P	E	L	L	G	G	P	S	V	F	L	F	P	P	K	P	K	D	T	L	M	I
4497.v8-HCLC-Cys	D	K	K	V	E	P	K	S	C	D	K	T	H	T	C	P	P	C	P	A	P	E	L	L	G	G	P	S	V	F	L	F	P	P	K	P	K	D	T	L	M	I
Eu Number	284	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295
4497	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V	H	N	A	K	T	K	P	R	E	E	Q
4497.v8-HC-Cys	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V	H	N	A	K	T	K	P	R	E	E	Q
4497.v8-LC-Cys	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V	H	N	A	K	T	K	P	R	E	E	Q
4497.v8-HCLC-Cys	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V	H	N	A	K	T	K	P	R	E	E	Q
Eu Number	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337
4497	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K	A	L	F	A	P	I	E	K	T	I	S
4497.v8-HC-Cys	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K	A	L	F	A	P	I	E	K	T	I	S
4497.v8-LC-Cys	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K	A	L	F	A	P	I	E	K	T	I	S
4497.v8-HCLC-Cys	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K	A	L	F	A	P	I	E	K	T	I	S
Eu Number	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379
4497	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L	V	K	G	F	Y	P	S	D	I	A	V
4497.v8-HC-Cys	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L	V	K	G	F	Y	P	S	D	I	A	V
4497.v8-LC-Cys	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L	V	K	G	F	Y	P	S	D	I	A	V
4497.v8-HCLC-Cys	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L	V	K	G	F	Y	P	S	D	I	A	V

FIG. 16B-2

Eu Number	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421
4497	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L	T	V	D	K	S	R	W	Q	Q	G	N
4497.v8-HC-Cys	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L	T	V	D	K	S	R	W	Q	Q	G	N
4497.v8-LC-Cys	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L	T	V	D	K	S	R	W	Q	Q	G	N
4497.v8-HCLC-Cys	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L	T	V	D	K	S	R	W	Q	Q	G	N

Eu Number	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446
4497	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
4497.v8-HC-Cys	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
4497.v8-LC-Cys	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G
4497.v8-HCLC-Cys	V	F	S	C	S	V	M	H	E	A	L	H	N	H	Y	T	Q	K	S	L	S	L	S	P	G

FIG. 16B-3

CDR Sequences According to Kabat Definition are Underlined

Light Chain

CDR Sequences According to Kabat Definition are Underlined																																											
Light Chain		CDR L1 - Contact																																									
		CDR L1 - Chothia																																									
		CDR L1 - Kabat																																									
Kabat Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	27a	27b	27c	27d	27e	27f	28	29	30	31	32	33	34	35	36	
6078	D	I	V	M	T	Q	S	P	S	I	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	.	.	T	I	S	G	<u>W</u>	<u>L</u>	A	W	Y	
6263	D	I	Q	L	T	Q	S	P	S	I	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	.	.	T	I	S	G	<u>W</u>	<u>L</u>	A	W	Y	
4450	E	I	V	L	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T	L	S	C	R	A	S	Q	F	.	.	.	.	.	.	V	S	R	T	S	L	A	W	F
6297	E	T	T	L	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T	L	S	C	R	A	S	Q	S	.	.	.	.	.	.	V	S	S	S	Y	L	A	W	Y
6239	D	V	V	M	T	Q	S	S	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	L	.	.	.	.	.	.	D	I	T	N	H	L	A	W	Y	
6232	E	I	V	M	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T	L	S	C	R	A	S	Q	S	.	.	.	.	.	.	V	G	A	I	Y	L	A	W	Y
6259	E	I	V	L	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	.	.	.	G	I	R	N	G	L	G	W	Y
6292	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	.	.	.	G	I	R	N	G	L	G	W	Y
4462	D	I	Q	M	T	Q	S	P	A	T	L	S	S	V	S	P	G	E	T	V	T	L	S	C	R	A	S	Q	.	.	.	.	.	.	S	V	R	T	N	V	A	W	Y
6265	D	V	V	M	T	Q	S	P	S	F	L	S	A	S	V	G	D	R	V	T	L	T	C	R	A	S	Q	.	.	.	.	.	.	.	D	I	G	S	S	L	A	W	Y
6253	E	T	T	L	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	.	.	.	S	I	G	D	R	L	A	W	Y
4497	D	I	Q	L	T	Q	S	P	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	K	S	S	Q	S	I	F	R	T	S	R	N	K	N	L	L	A	W	Y	
4487	D	I	Q	L	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	.	.	.	F	T	N	H	Y	L	N	W	Y

CDR L2 - Contact

		CDR L2 - Choithia																																											
		CDR L2 - Kabat																																											
Kabat Number		37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78		
6078	Q	Q	Q	K	P	A	E	A	P	K	L	L	I	Y	K	A	S	T	L	E	S	G	V	P	S	R	F	S	G	S	G	S	G	T	E	F	T	L	T	I	S	S	L	L	
6263	Q	Q	K	P	A	A	E	A	P	K	L	L	I	Y	K	A	S	T	L	E	S	G	V	P	S	R	F	S	G	S	G	S	G	T	E	F	T	L	T	I	S	S	L	L	
4450	Q	Q	K	P	G	Q	A	P	P	R	L	L	I	Y	E	T	S	S	R	A	T	G	I	P	D	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	R	L	L	
6297	Q	Q	K	P	G	Q	A	P	K	V	L	L	I	Y	D	A	S	S	R	A	T	G	I	P	D	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	L	
6239	Q	Q	K	P	G	E	L	P	K	L	L	L	I	Y	E	A	S	S	I	L	Q	S	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	L
6232	Q	Q	E	P	G	R	A	P	T	L	L	L	I	F	Y	G	V	S	N	R	A	T	G	I	P	D	R	F	S	G	S	G	S	D	R	D	F	T	L	T	I	S	S	L	L
6259	Q	Q	T	P	G	K	A	P	K	L	L	L	I	Y	Y	P	A	S	T	L	E	S	G	V	P	S	R	F	S	G	S	G	S	D	R	D	F	T	L	T	I	S	S	L	L
6292	Q	Q	I	P	G	K	A	P	K	L	L	L	I	Y	Y	P	A	S	T	L	E	S	G	V	P	S	R	F	S	G	S	G	S	D	R	D	F	T	L	T	I	S	S	L	L
4462	R	H	K	A	G	Q	A	P	M	I	L	L	V	S	G	A	S	T	R	A	S	G	A	P	P	A	R	F	S	G	S	G	Y	G	T	E	F	T	L	T	I	S	S	L	L
6265	Q	Q	R	P	P	G	K	A	P	N	L	L	I	Y	A	T	S	T	L	Q	S	G	V	P	S	R	F	S	G	S	G	G	F	T	E	F	T	L	T	I	S	T	L	L	
6253	Q	Q	K	P	P	G	K	A	P	K	V	L	I	Y	W	A	S	N	L	E	S	G	V	P	S	R	F	S	G	S	G	G	T	E	F	T	L	T	I	S	S	L	L		
4497	Q	Q	R	P	P	G	Q	A	P	R	L	L	I	H	W	A	S	T	R	K	S	G	V	P	S	R	F	S	G	S	G	G	F	T	D	F	T	L	T	I	S	S	L	L	
4487	Q	H	K	P	P	G	R	A	P	K	L	M	I	S	V	A	S	N	L	Q	S	G	V	P	S	R	F	S	T	G	E	S	G	T	D	F	T	L	T	I	S	S	L	L	

FIG. 17A-1

CDR L3 - Contact																				CDR L3 - Chothia																				CDR L3 - Kabat																				Constant Region, Eu Number																			
Kabat Number	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	95a	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119																																					
6078	Q	P	D	D	F	G	I	Y	Y	C	Q	Q	Q	Y	K	S	Y	S	.	F	N	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																			
6263	Q	P	D	D	F	G	I	Y	Y	C	Q	Q	Q	Y	K	S	Y	S	.	F	N	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																			
4450	E	P	E	D	F	A	M	Y	Y	C	H	K	Y	G	S	G	F	.	R	T	F	G	Q	Q	G	T	K	V	E	V	K	R	T	V	A	A	P	S	V	F	I	F	P																																				
6297	E	P	E	D	F	A	V	Y	Y	C	Q	K	Y	G	S	T	P	.	R	P	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																				
6239	Q	P	E	D	V	A	T	Y	Y	C	E	K	Y	G	S	T	P	.	R	T	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																				
6232	E	P	E	D	F	A	V	Y	Y	C	Q	L	Y	T	S	S	R	A	.	L	T	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																			
6259	Q	P	E	D	F	A	T	Y	Y	C	L	Q	D	H	N	Y	F	.	P	T	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																				
6292	Q	P	E	D	F	A	T	Y	Y	C	L	Q	D	H	N	Y	F	.	P	T	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																				
4462	Q	S	E	D	F	A	V	Y	Y	C	L	Q	Y	N	T	W	V	.	R	T	F	G	Q	Q	G	T	K	V	E	V	K	R	T	V	A	A	P	S	V	F	I	F	P																																				
6265	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	Q	L	N	N	Y	V	.	H	S	F	G	P	P	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																			
6253	Q	P	D	D	L	A	T	Y	Y	C	Q	Q	Q	Y	K	S	Q	.	.	[W]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]	[S-T]																																			
4497	Q	A	E	D	V	A	I	Y	Y	C	Q	Q	Q	Y	F	S	P	P	.	Y	T	F	G	Q	Q	G	T	K	V	E	I	K	R	T	V	A	A	P	S	V	F	I	F	P																																			
4487	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	Q	S	Y	R	T	P	.	Y	T	F	G	Q	Q	G	S	R	L	E	M	K	R	T	V	A	A	P	S	V	F	I	F	P																																			

Eu Number	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161
6078	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6263	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
4450	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6297	F	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6239	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6232	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6259	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6292	F	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
4462	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6265	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
6253	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
4497	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E
4487	P	S	D	E	Q	L	K	S	G	T	A	S	V	V	C	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A	L	Q	S	G	N	S	Q	E

FIG. 17A-2

Eu Number	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203
6078	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6263	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
4450	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6297	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6239	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6232	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6259	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6292	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
4462	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6265	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
6253	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
4497	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S
4487	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L	T	L	S	K	A	D	Y	E	K	H	K	V	Y	A	C	E	V	T	H	Q	G	L	S	S

Eu Number	204	205	206	207	208	209	210	211	212	213	214
6078	P	V	T	K	S	F	N	R	G	E	C
6263	P	V	T	K	S	F	N	R	G	E	C
4450	P	V	T	K	S	F	N	R	G	E	C
6297	P	V	T	K	S	F	N	R	G	E	C
6239	P	V	T	K	S	F	N	R	G	E	C
6232	P	V	T	K	S	F	N	R	G	E	C
6259	P	V	T	K	S	F	N	R	G	E	C
6292	P	V	T	K	S	F	N	R	G	E	C
4462	P	V	T	K	S	F	N	R	G	E	C
6265	P	V	T	K	S	F	N	R	G	E	C
6253	P	V	T	K	S	F	N	R	G	E	C
4497	P	V	T	K	S	F	N	R	G	E	C
4487	P	V	T	K	S	F	N	R	G	E	C

* Light chain Eu position 205 marked by asterisk can be changed to Cys for drug conjugation.

FIG. 17A-3

Heavy Chain

Heavy Chain	CDR H1 - Contact										CDR H1 - Chothia										CDR H1 - Kabat																							
	CDR H1 - Contact										CDR H1 - Chothia										CDR H1 - Kabat																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42		
Kabat Number	6078	6263	4450	6297	6239	6232	6259	6292	4462	6265	6253	4497	4487																															
	Q	M	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G		
	Q	V	Q	L	Q	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G		
	E	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G		
	Q	V	Q	L	Q	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	R	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G		
	Q	V	Q	L	Q	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	E	A	S	G	Y	T	L	T	S	Y	D	I	N	W	V	R	Q	A	T	G		
	Q	I	T	L	K	E	S	G	G	G	L	I	K	P	G	G	S	L	R	L	S	C	A	T	S	G	F	P	F	S	A	Y	A	M	N	W	V	R	Q	A	T	G		
	E	V	Q	L	V	Q	S	G	G	G	L	V	K	P	G	E	S	L	R	L	S	C	A	A	S	G	F	P	F	S	N	Y	S	M	I	W	V	R	Q	A	T	G		
	Q	V	Q	L	Q	Q	S	G	G	G	L	E	Q	P	G	G	S	L	R	L	S	C	A	A	S	G	F	T	F	S	N	Y	S	M	I	W	V	R	Q	A	T	G		
	Q	V	Q	L	V	Q	S	G	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	A	A	S	G	F	T	F	S	D	Y	A	M	S	W	V	R	Q	A	T	G		
	E	V	Q	L	V	Q	S	G	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	A	A	S	G	F	T	F	S	S	Y	A	M	G	W	V	R	Q	A	T	G		
	E	V	Q	L	V	Q	S	G	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	A	A	S	G	F	T	F	S	S	Y	A	M	N	W	V	R	Q	A	T	G		
	E	V	Q	L	V	E	S	G	G	G	L	V	Q	P	G	G	S	L	R	L	S	C	A	A	S	G	F	T	F	S	N	S	F	[W]	H	W	V	R	Q	A	T	G		
	Q	M	Q	L	Q	E	S	G	P	G	L	V	K	P	S	E	T	L	S	L	S	C	S	V	S	G	A	S	S	S	G	Y	N	W	V	R	Q	A	T	G				

CDR H2 - Contact

CDR H2 - Chothia

CDR H2 - Kabat

Kabat Number	CDR H2 - Contact										CDR H2 - Chothia										CDR H2 - Kabat										CDR H2 - Chothia										CDR H2 - Kabat									
	43	44	45	46	47	48	49	50	51	52	52a	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	82a								
6078	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S								
6263	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S								
4450	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S								
6297	Q	G	P	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S								
6239	Q	G	L	E	W	M	G	W	M	N	A	N	S	G	N	T	G	Y	A	Q	K	F	Q	G	R	V	T	L	T	G	D	T	S	I	S	T	A	Y	M	E	L	S								
6232	R	K	L	E	W	V	S	S	I	T	K	N	S	D	S	L	Y	A	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	G	N	S	L	Y	L	Q	M	S								
6259	K	K	L	E	W	V	S	S	I	D	S	S	S	R	Y	L	Y	A	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	Q	N	S	L	Y	L	Q	M	S								
6292	K	K	L	E	W	V	S	S	I	D	S	S	S	R	Y	L	Y	A	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	Q	N	S	L	Y	L	Q	M	S								
4462	K	K	L	Q	W	V	S	T	I	G	I	D	D	T	T	T	H	Y	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	S	K	N	S	L	Y	L	Q	M	S							
6265	K	K	L	E	W	V	S	V	V	T	G	H	S	Y	R	T	H	Y	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	S	K	N	S	L	Y	L	Q	M	S							
6253	K	K	L	E	W	V	S	Y	I	S	.	S	I	E	T	I	Y	A	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	S	K	N	S	L	Y	L	Q	M	S							
4497	K	G	L	V	W	I	S	F	T	N	N	E	G	T	T	T	A	Y	A	D	S	V	K	G	R	F	T	I	S	R	D	N	A	S	K	N	S	L	Y	L	Q	M	S							
4487	G	G	L	E	W	I	A	Y	I	L	.	S	G	A	H	T	D	I	K	A	S	L	G	S	R	V	A	I	V	S	S	V	T	S	K	N	S	L	Y	L	Q	M	S							

FIG. 17B-1

CDR H3 - Contact
 CDR H3 - Chothia
 CDR H3 - Kabat

Kabat Number	82b	82c	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	100a	100b	100c	100d	100e	100f	100g	100h	100i	100j	101	102	103	104	105	106	107	108	109	110	111	112		
6078	S	L	R	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R	G	A	L	G	R	Y	F	.	.	.	.	D	L	W	G	R	G	T	L	V	T	V	S	
6263	S	L	R	S	E	D	T	A	V	Y	Y	C	A	R	S	S	I	L	V	R	G	A	L	G	R	Y	F	.	.	.	.	D	L	W	G	R	G	T	L	V	T	V	S	
4450	S	L	T	S	A	D	T	A	V	Y	Y	C	A	R	A	V	R	G	Q	L	L	S	.	.	.	.	.	.	.	.	E	Y	W	G	Q	G	T	L	V	T	V	S		
6297	S	L	R	S	E	D	T	A	V	Y	Y	C	A	R	E	R	S	K	D	T	G	H	Y	Y	Y	Y	F	.	.	.	D	V	W	G	Q	G	T	T	V	T	V	S		
6239	S	L	T	S	E	D	T	A	V	Y	Y	C	A	R	G	G	Y	Y	D	S	S	G	N	Y	H	I	S	G	L	D	V	W	G	Q	G	T	T	V	T	V	S			
6232	S	L	R	V	E	D	T	A	V	Y	Y	C	A	R	A	A	R	I	M	A	.	.	.	.	.	.	.	.	.	.	D	V	W	G	Q	G	T	L	V	T	V	S		
6259	G	L	R	V	E	D	T	A	V	Y	Y	C	A	R	D	G	D	D	I	L	S	V	Y	R	G	S	G	R	P	P	F	D	Y	W	G	Q	G	T	L	V	T	V	S	
6292	A	L	R	V	E	D	T	A	V	Y	Y	C	A	R	R	D	G	D	D	I	L	S	V	Y	Q	G	S	G	R	P	P	F	D	Y	W	G	Q	G	T	L	V	T	V	S
4462	S	L	R	V	E	D	T	A	L	V	Y	C	A	V	K	N	S	G	I	Y	.	.	.	.	.	.	.	.	.	.	S	F	W	G	Q	G	T	L	V	T	V	S		
6265	S	L	R	A	E	D	T	A	V	Y	Y	C	A	K	R	I	W	S	Y	G	D	D	S	F	.	.	.	.	.	.	D	V	W	G	Q	G	T	T	V	T	V	S		
6253	S	L	R	D	E	D	T	A	V	Y	Y	C	A	R	D	R	L	V	D	V	P	L	S	S	P	.	.	.	.	.	N	S	W	G	Q	G	T	L	V	T	V	S		
4497	N	L	R	G	E	D	T	A	V	Y	Y	C	A	R	G	D	G	G	L	.	.	.	.	.	.	.	.	.	.	.	D	D	W	G	Q	G	T	L	V	T	V	S		
4487	S	V	T	A	A	D	T	A	T	Y	Y	C	A	R	S	G	V	Y	S	K	Y	S	L	.	.	.	.	.	.	.	D	V	W	G	Q	G	T	T	V	T	V	S		

Constant Region, Eu Numbering System Used

Kabat Number	113	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	
6078	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6263	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
4450	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6297	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6239	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6232	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6259	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6292	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
4462	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6265	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
6253	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
4497	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W
4487	S	A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	G	T	A	A	A	L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W

FIG. 17B-2

Eu Number 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200
6078 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6263 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
4450 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6297 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6239 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6232 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6259 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6292 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
4462 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6265 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
6253 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
4497 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C
4487 N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V T V P S S S L G T Q T Y I C

Eu Number 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242
6078 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6263 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
4450 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6297 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6239 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6232 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6259 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6292 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
4462 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6265 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
6253 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
4497 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L
4487 N V N H K P S N T K V D K K V E P X S C D K T H H T C P P C P A P E L L G G P S V F L

FIG. 17B-3

Eu Number	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284
6078	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6263	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
4450	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6297	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6239	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6232	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6259	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6292	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
4462	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6265	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
6253	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
4497	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V
4487	F	P	P	K	P	K	D	T	L	M	I	S	R	T	P	E	V	T	C	V	V	V	D	V	S	H	E	D	P	E	V	K	F	N	W	Y	V	D	G	V	E	V

Eu Number	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326
6078	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6263	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
4450	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6297	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6239	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6232	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6259	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6292	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
4462	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6265	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
6253	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
4497	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K
4487	H	N	A	K	T	K	P	R	E	E	Q	Y	N	S	T	Y	R	V	V	S	V	L	T	V	L	H	Q	D	W	L	N	G	K	E	Y	K	C	K	V	S	N	K

FIG. 17B-4

Eu Number	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368
6078	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6263	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
4450	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6297	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6239	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6232	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6259	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6292	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
4462	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6265	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
6253	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
4497	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L
4487	A	L	P	A	P	I	E	K	T	I	S	K	A	K	G	Q	P	R	E	P	Q	V	Y	T	L	P	P	S	R	E	E	M	T	K	N	Q	V	S	L	T	C	L

Eu Number	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410
6078	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6263	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
4450	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6297	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6239	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6232	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6259	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6292	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
4462	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6265	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
6253	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
4497	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L
4487	V	K	G	F	Y	P	S	D	I	A	V	E	W	E	S	N	G	Q	P	E	N	N	Y	K	T	T	P	P	V	L	D	S	D	G	S	F	F	L	Y	S	K	L

FIG. 17B-5

Eu Number	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446
6078	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6263	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
4450	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6297	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6239	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6232	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6259	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6292	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
4462	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6265	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
6253	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
4497	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G
4487	T	V	D	K	S	R	W	Q	Q	G	N	V	F	S	C	S	V	M	E	E	A	L	H	N	H	Y	T	Q	X	S	L	S	L	S	P	G

FIG. 17B-6

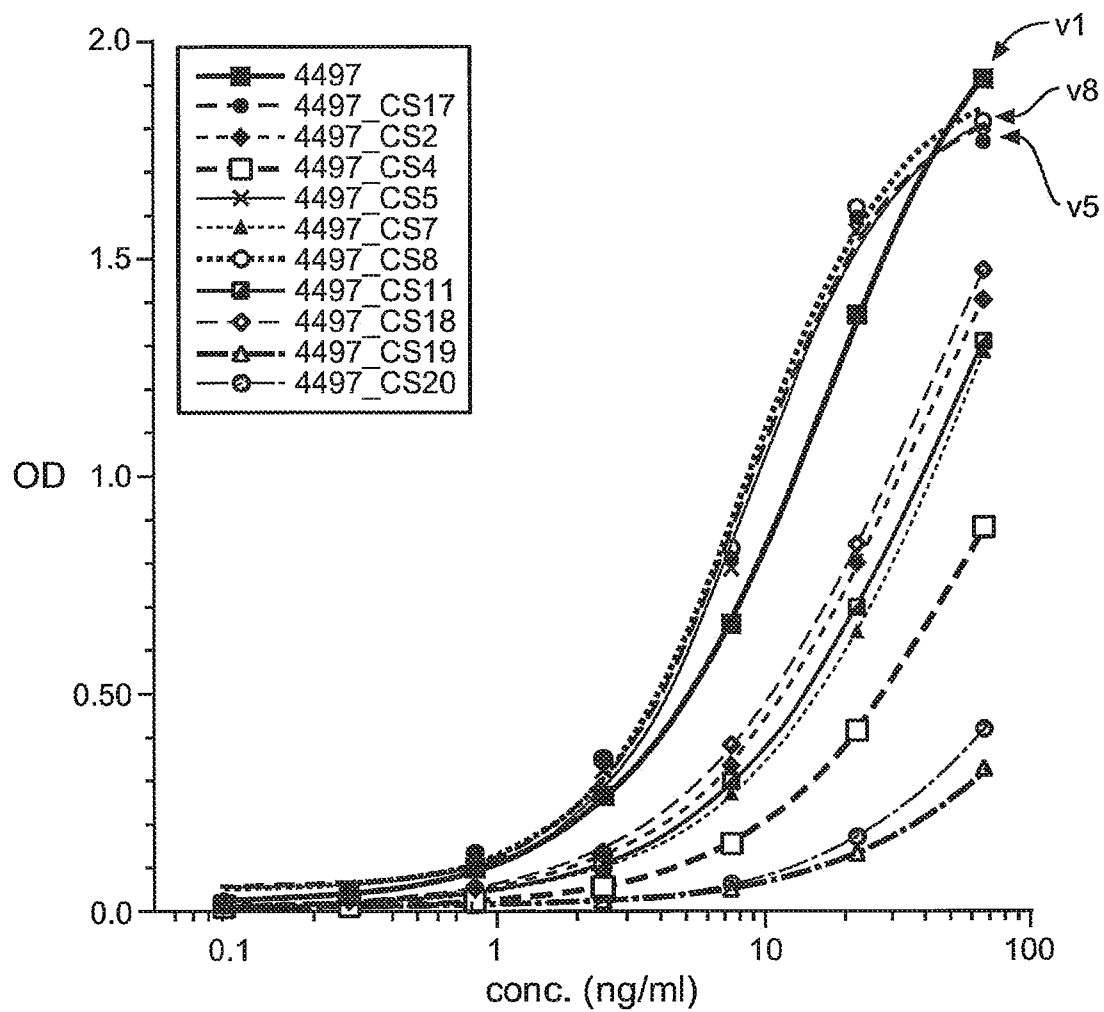


FIG. 18A

	93	94	95	96	97	98	99	101	102	ELISA
WT (v1)	A	R	G	D	G	G	L	D	D	+++
v7				D	G				E	+
v2				D	G				Y	+
v4				D	A				D	+
v19				D	A				E	+/-
v8				E	G				D	+++
v20				E	G				E	+/-
v5				A	G				D	++
v11				A	G				E	+
v18				A	G				Y	+

FIG. 18B

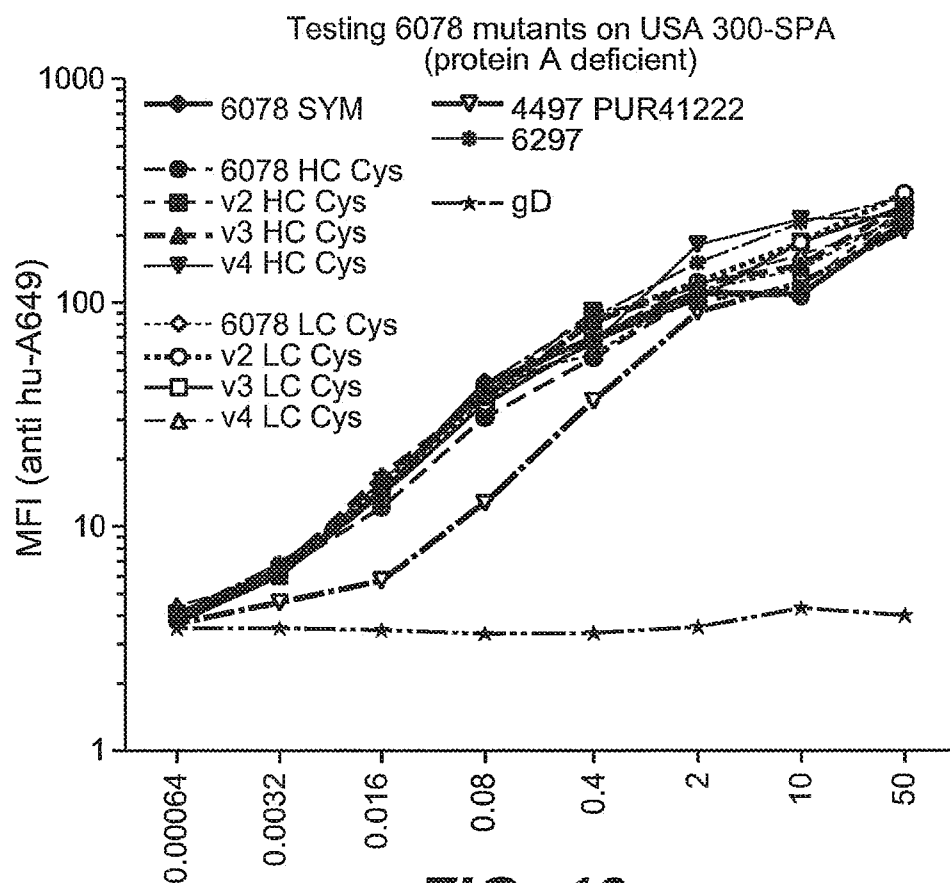


FIG. 19

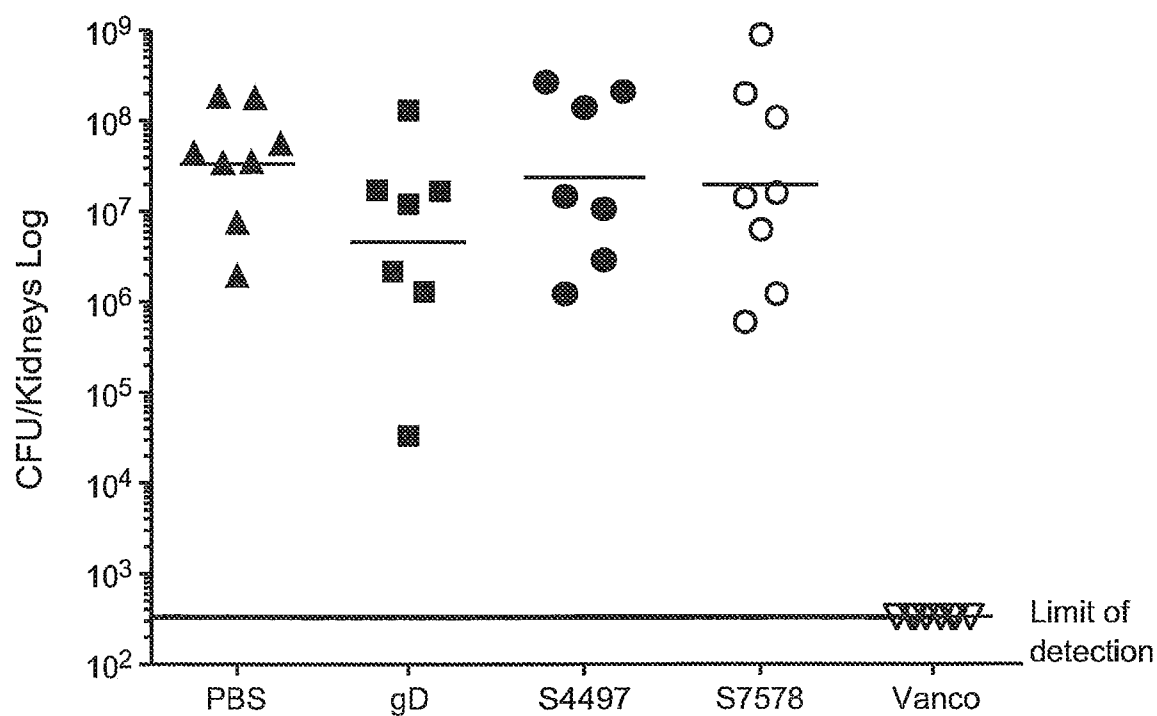


FIG. 20

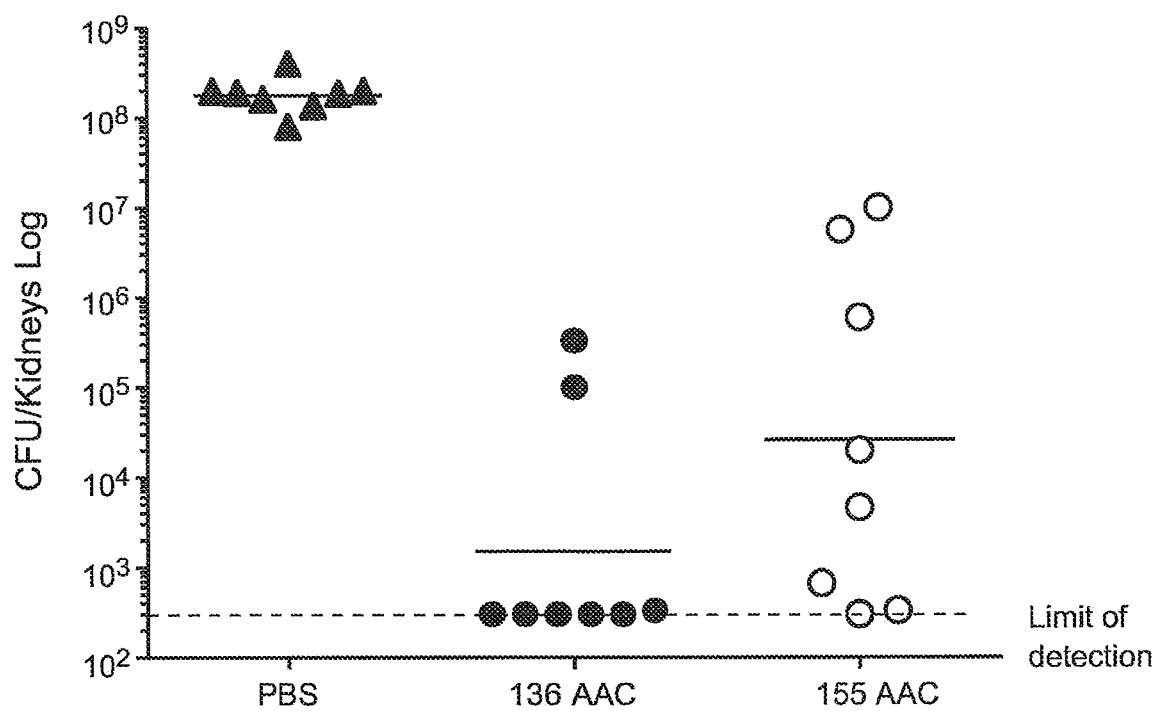


FIG. 21

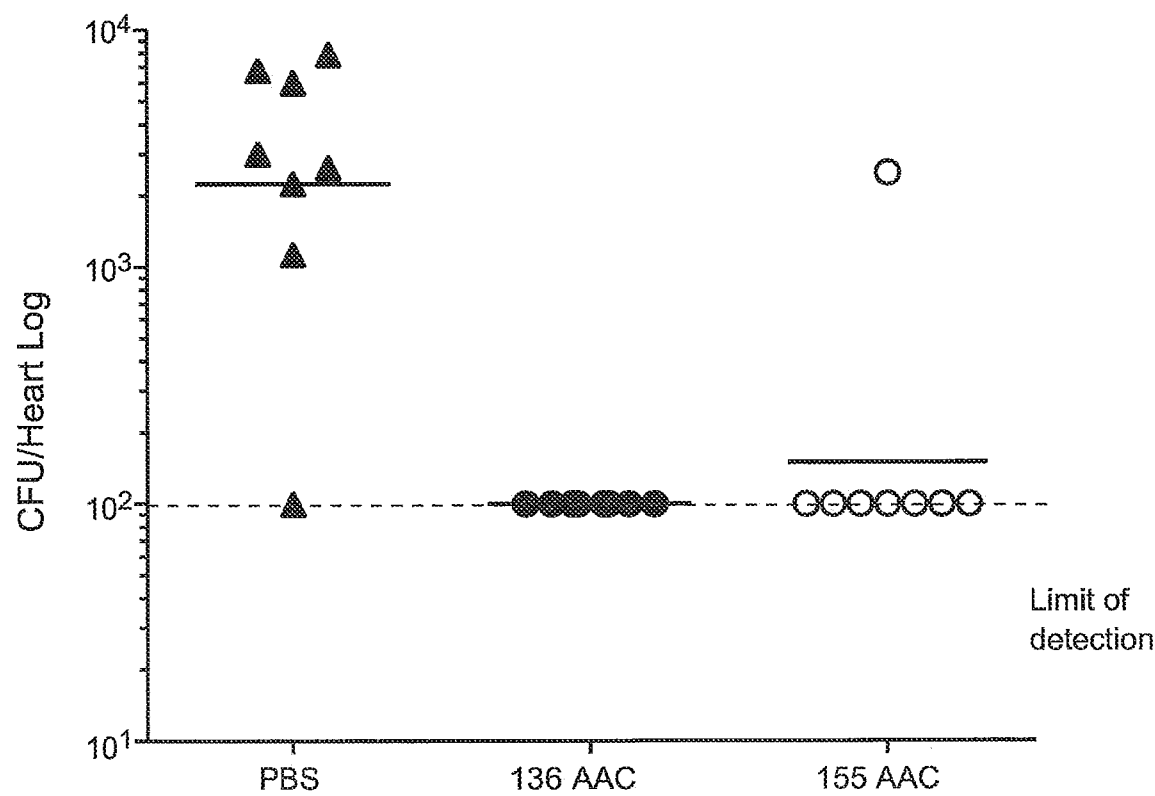


FIG. 22

FIG. 23A

FIG. 23B

FIG. 23

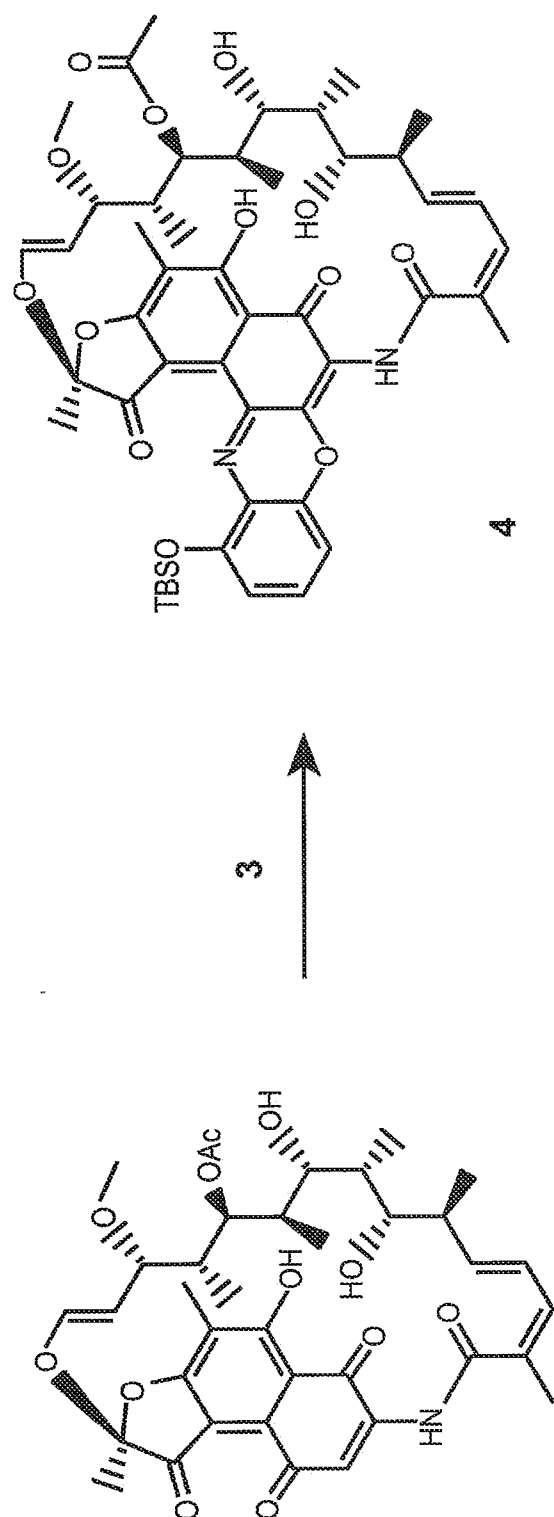
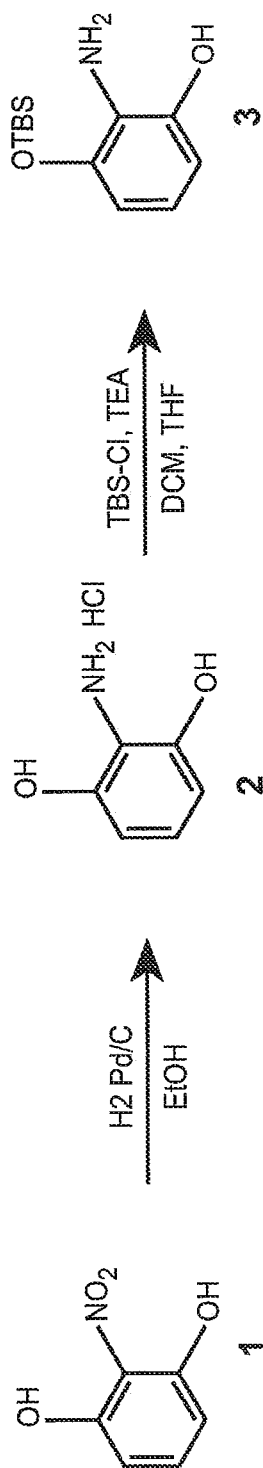


FIG. 23A

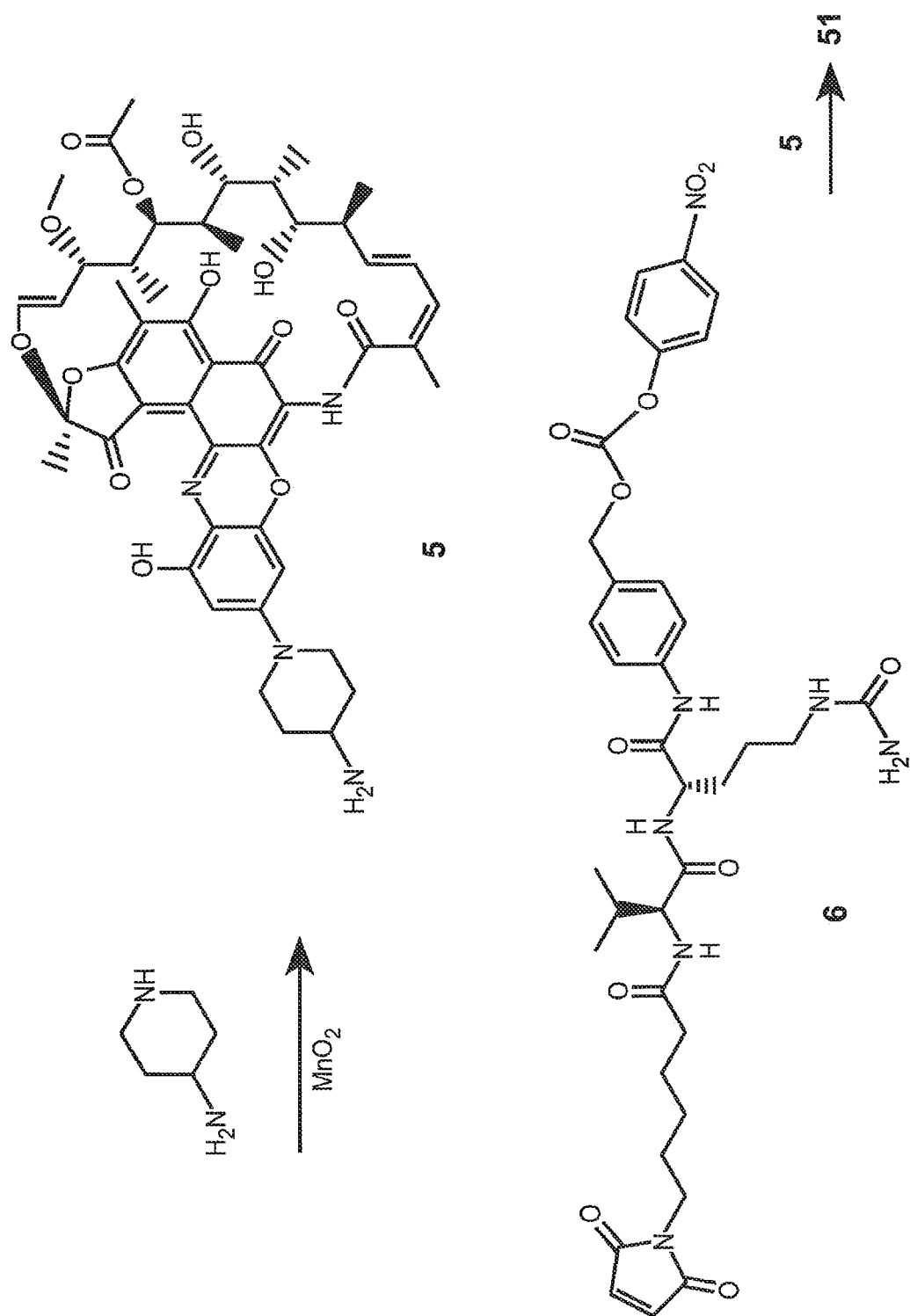
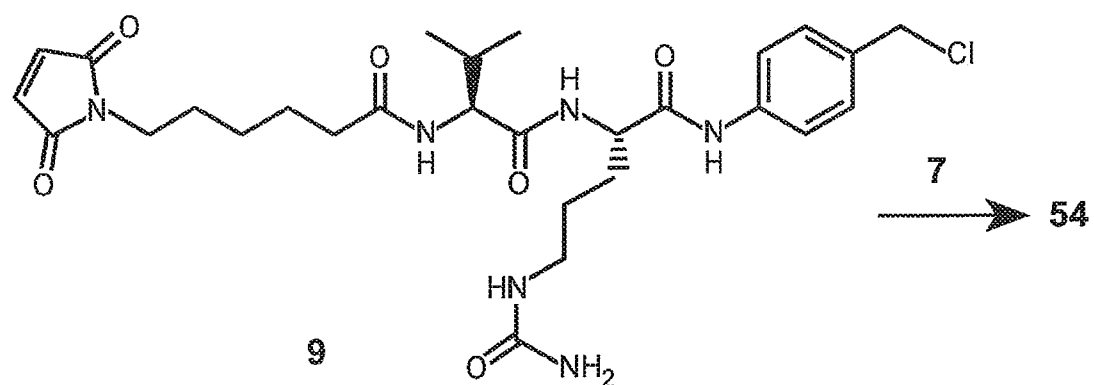


FIG. 23B



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FIG. 25A

FIG. 25B

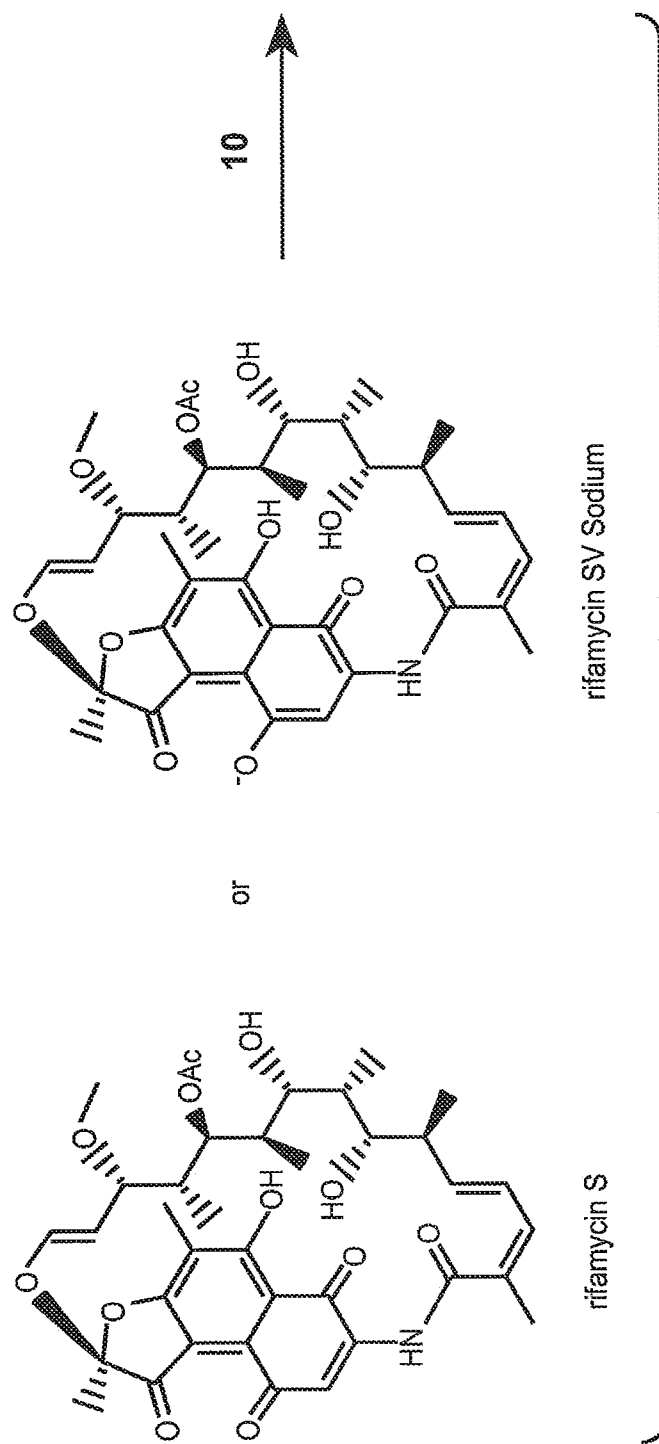
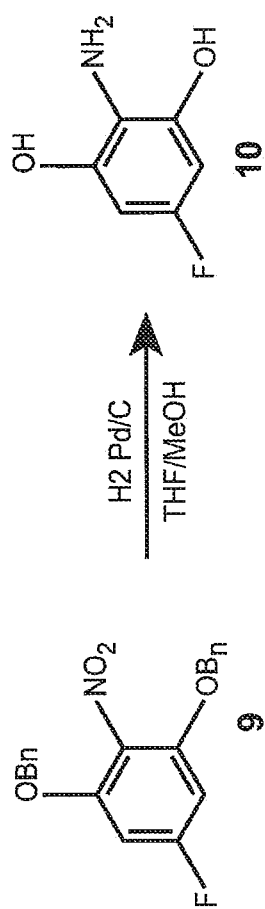


FIG. 25A

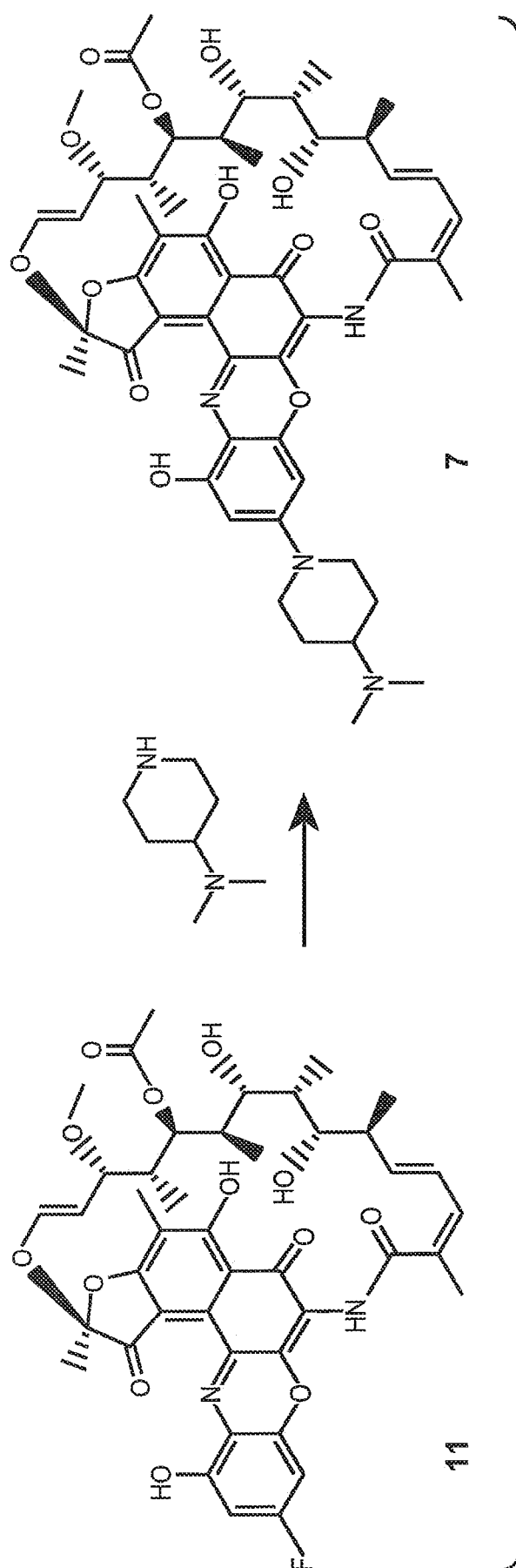


FIG. 25B

FRET Substrate for Cleavage Validation,
MP-K (Tamra)GGAFAAGGK (Fluorescein)

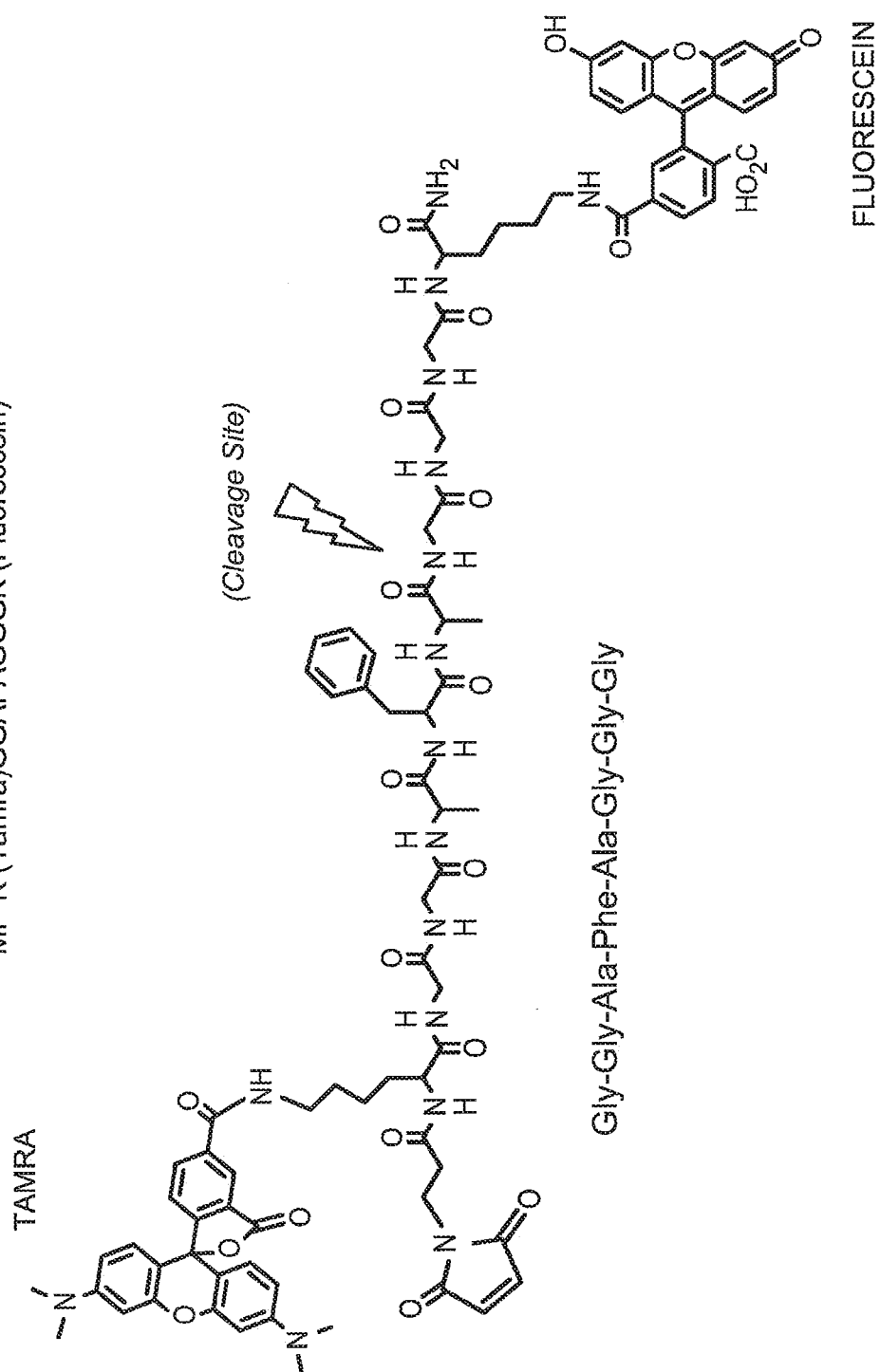


FIG. 26

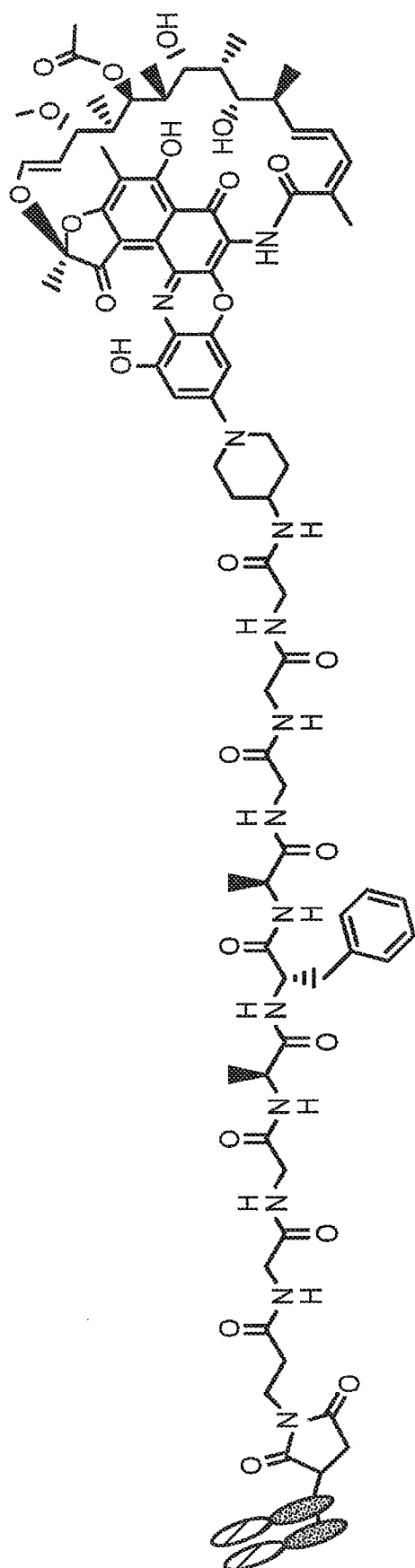
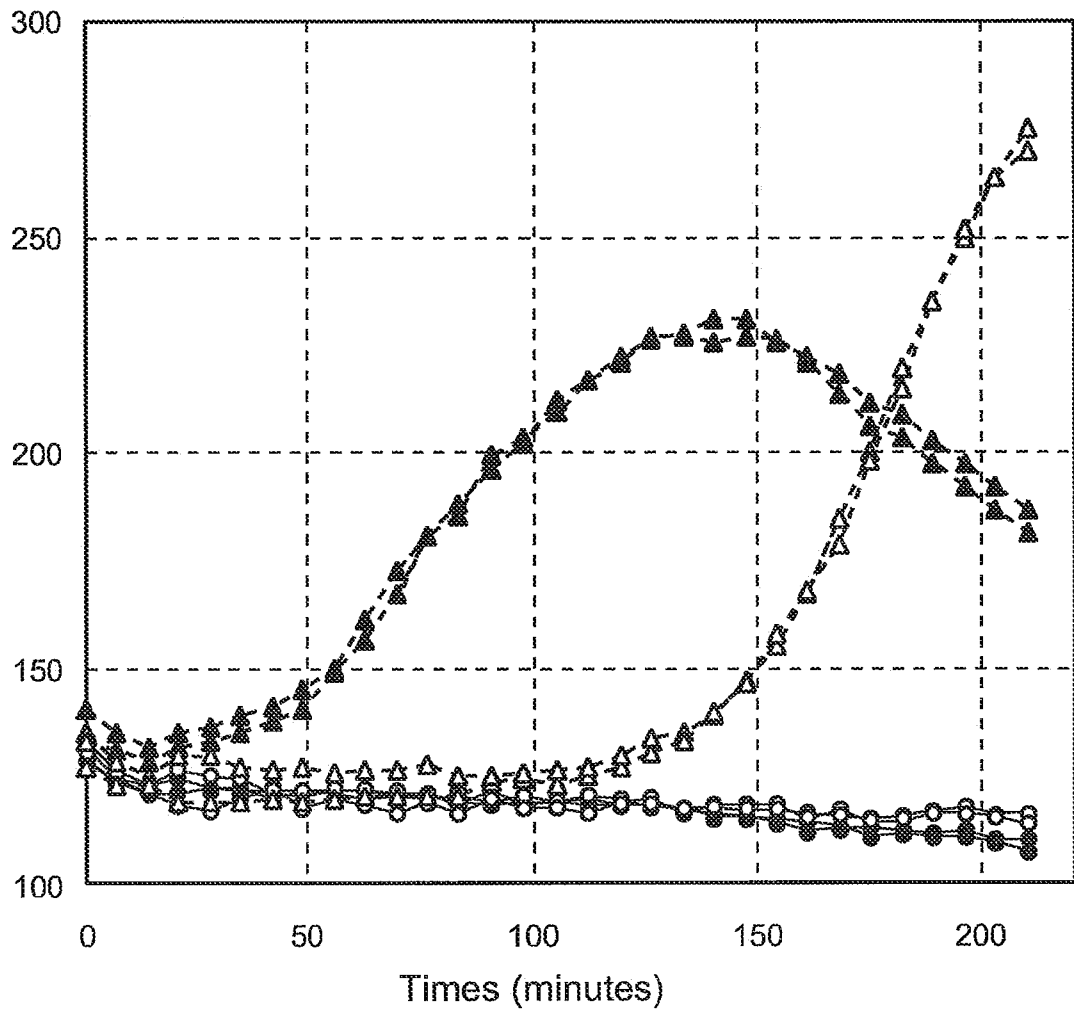


FIG. 27

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--▲-- thio-S4497-MP-K(Tamra)GGAFAAGGGK(Fluorescein)
FRET peptide, 10^8 cells/ml

--△-- thio-S4497-MP-K(Tamra)GGAFAAGGGK(Fluorescein)
FRET peptide, 10^7 cells/ml

FIG. 28

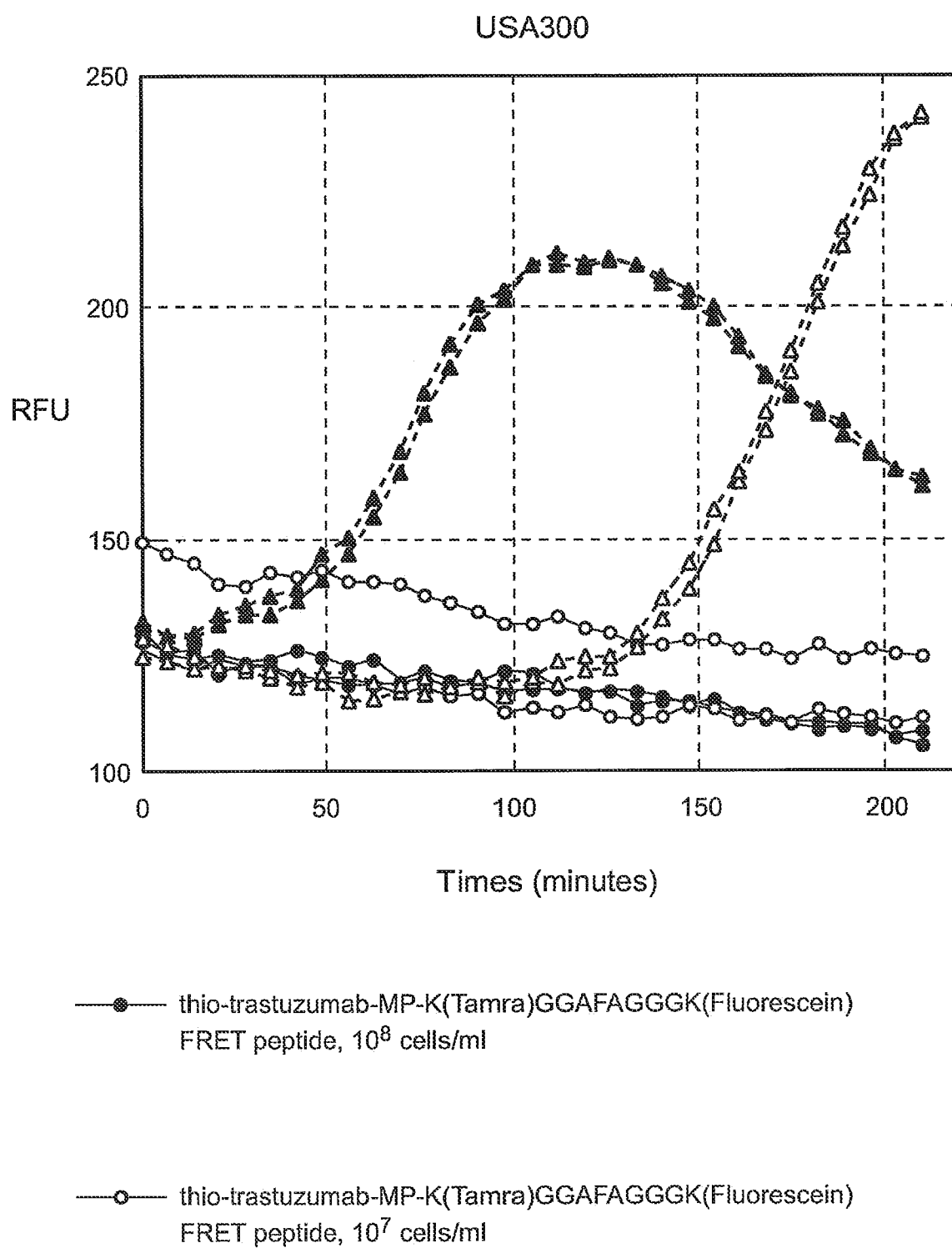


FIG. 29

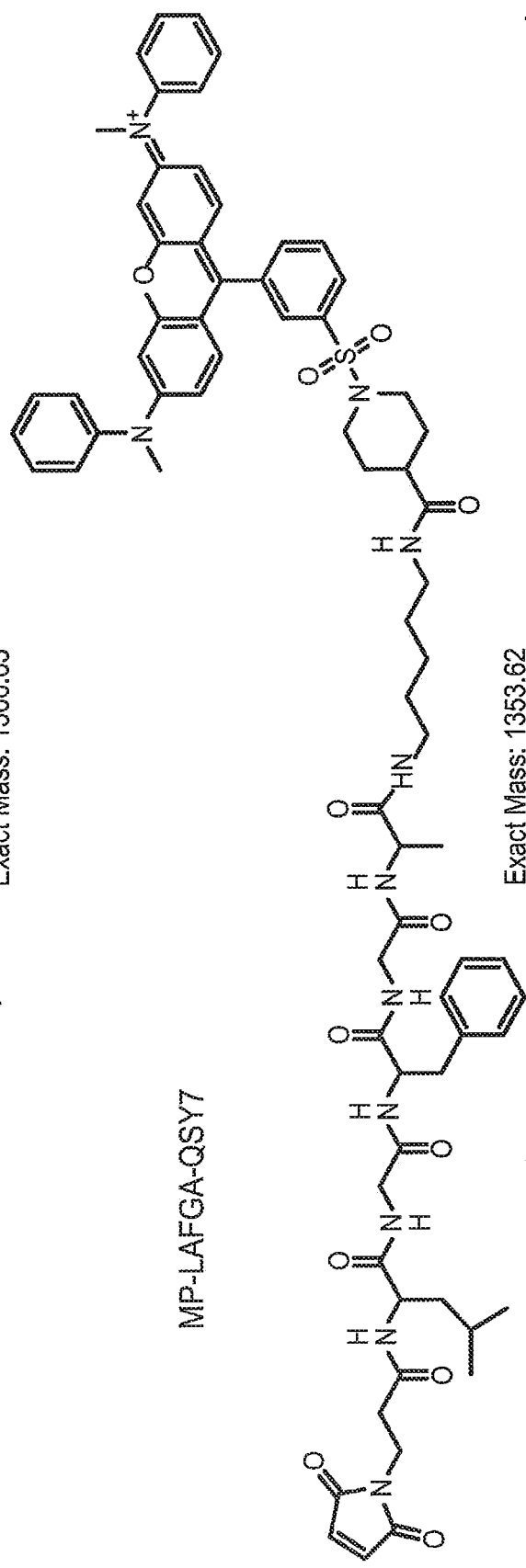
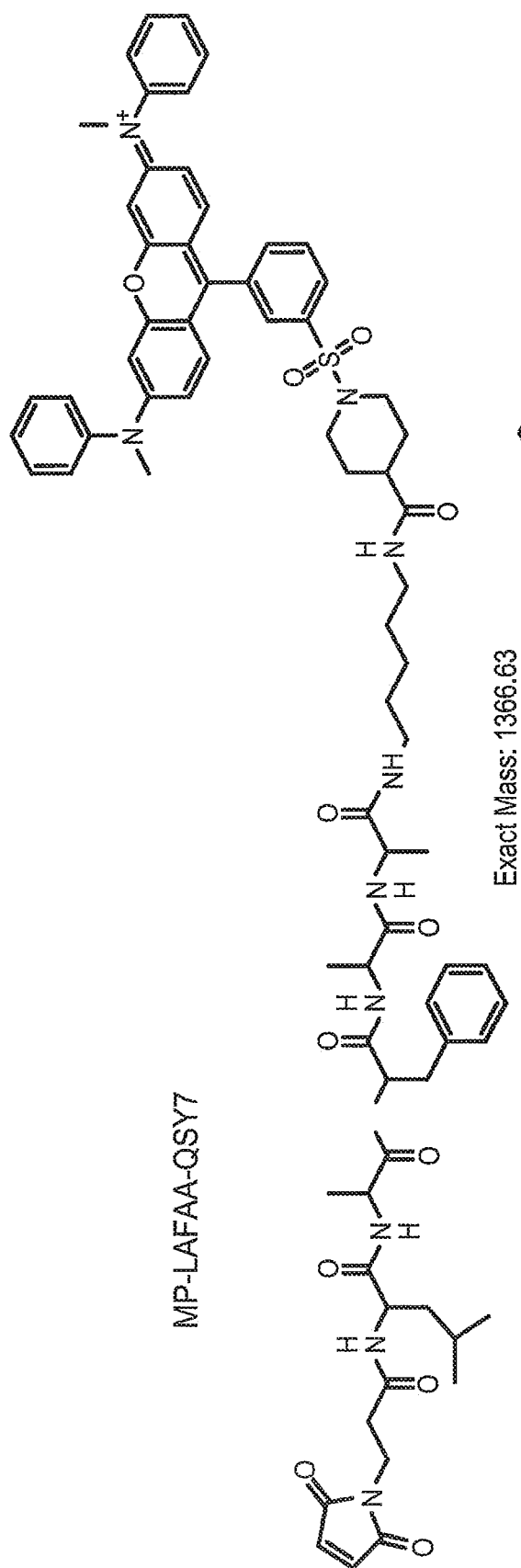


FIG. 30

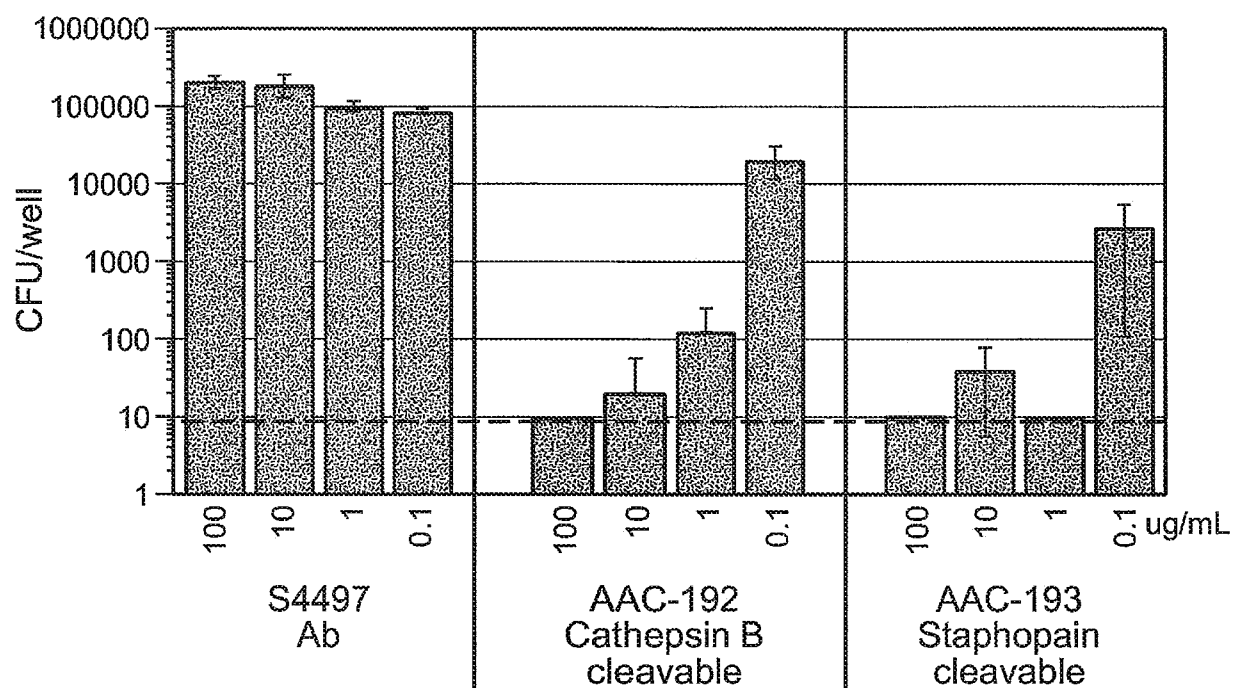


FIG. 31

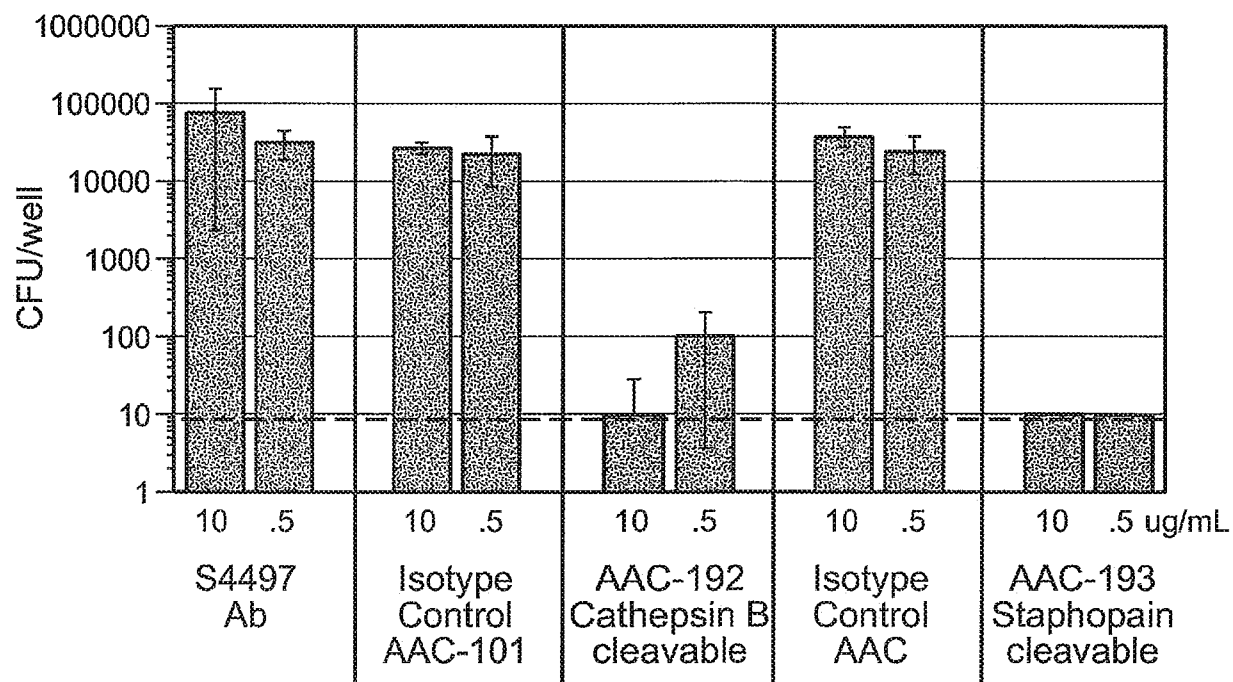


FIG. 32

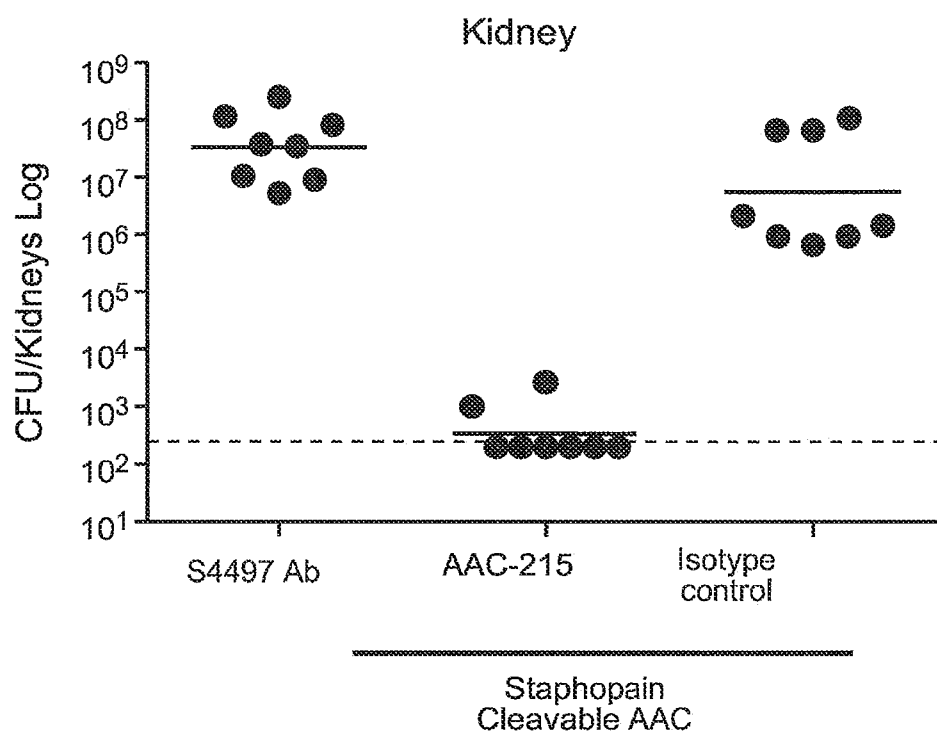


FIG. 33

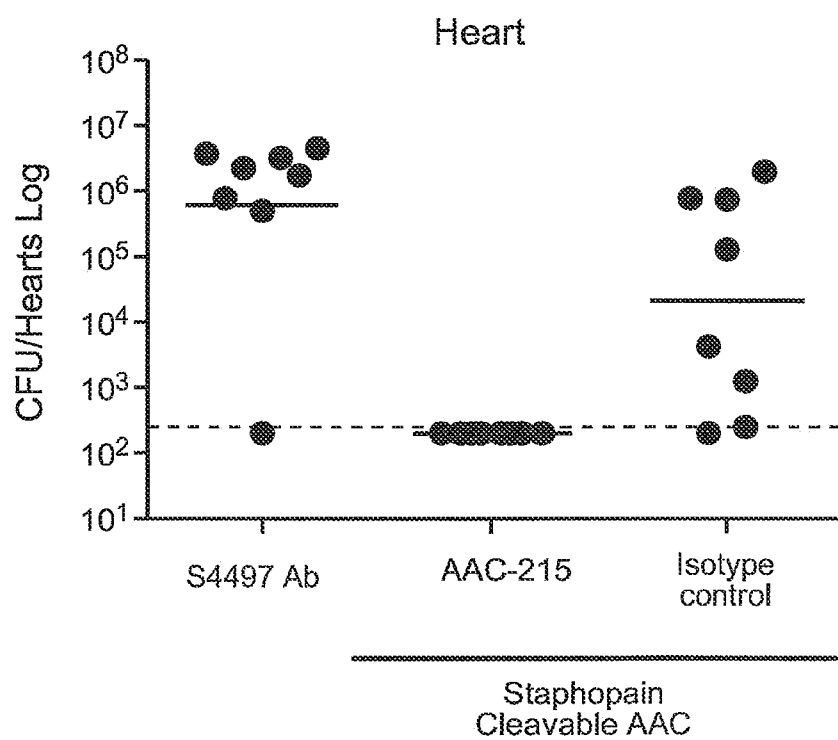


FIG. 34

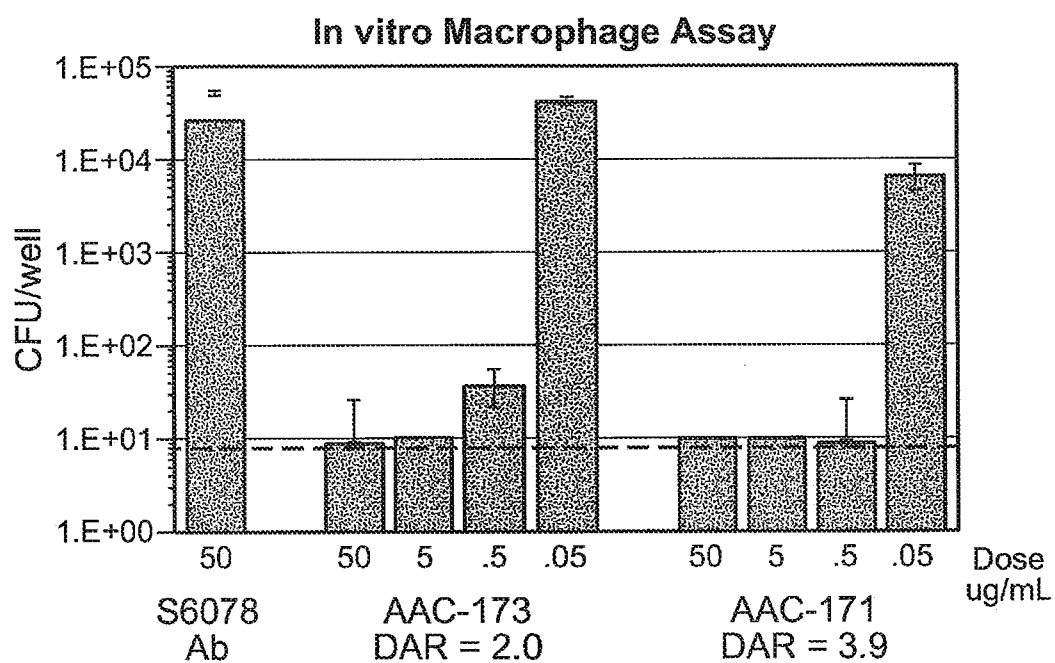


FIG. 35

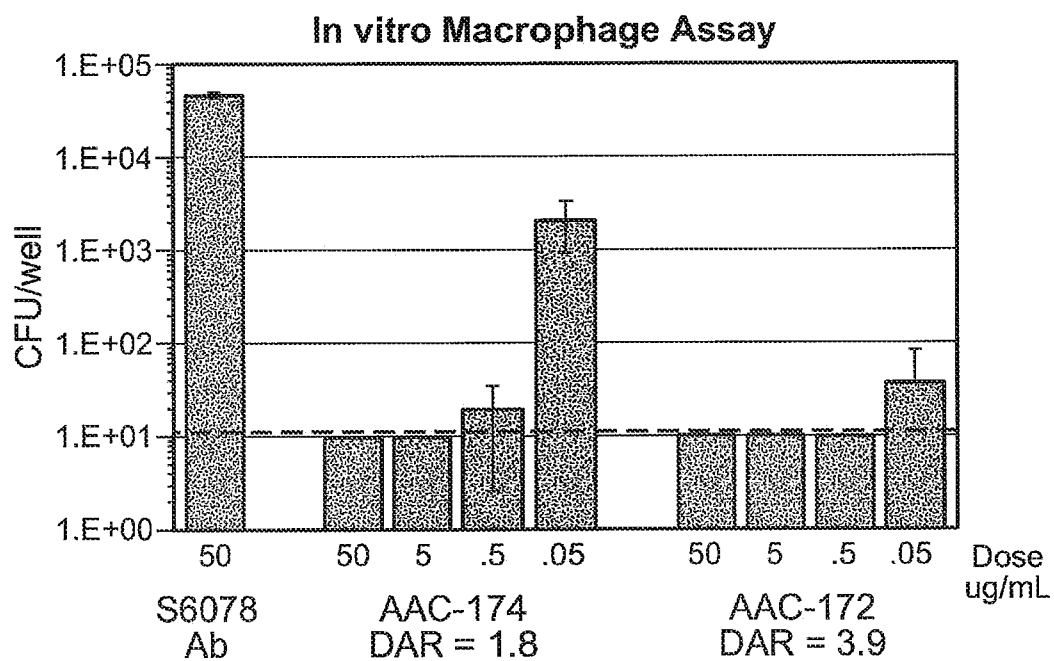


FIG. 36

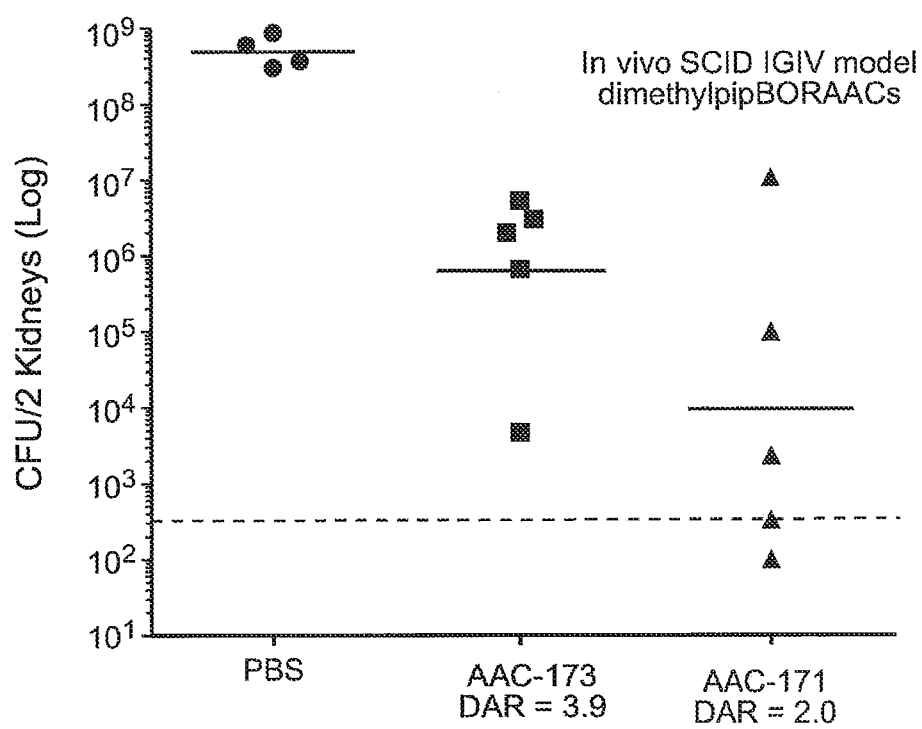


FIG. 37

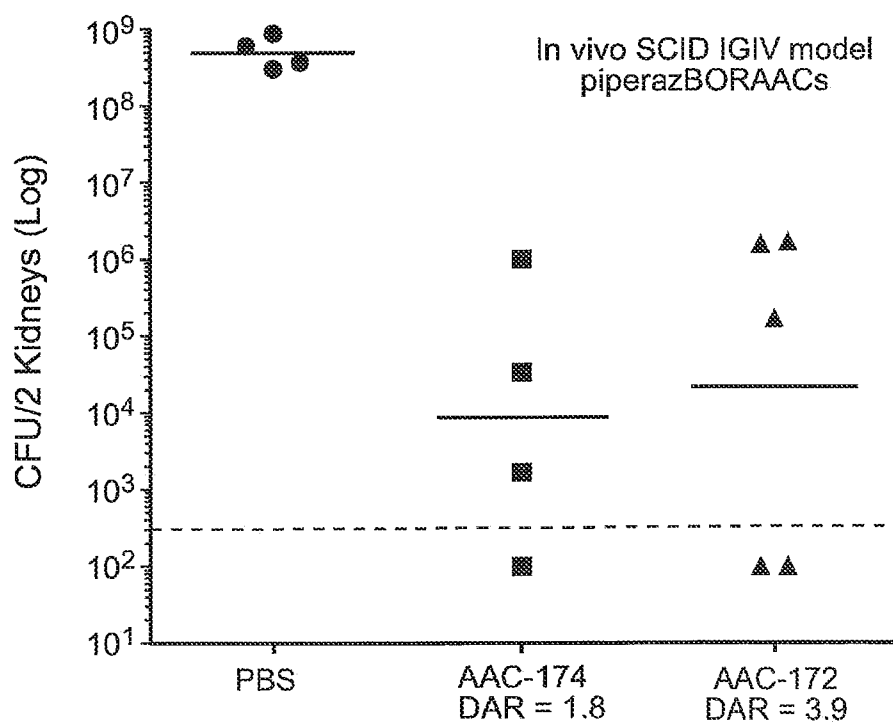


FIG. 38