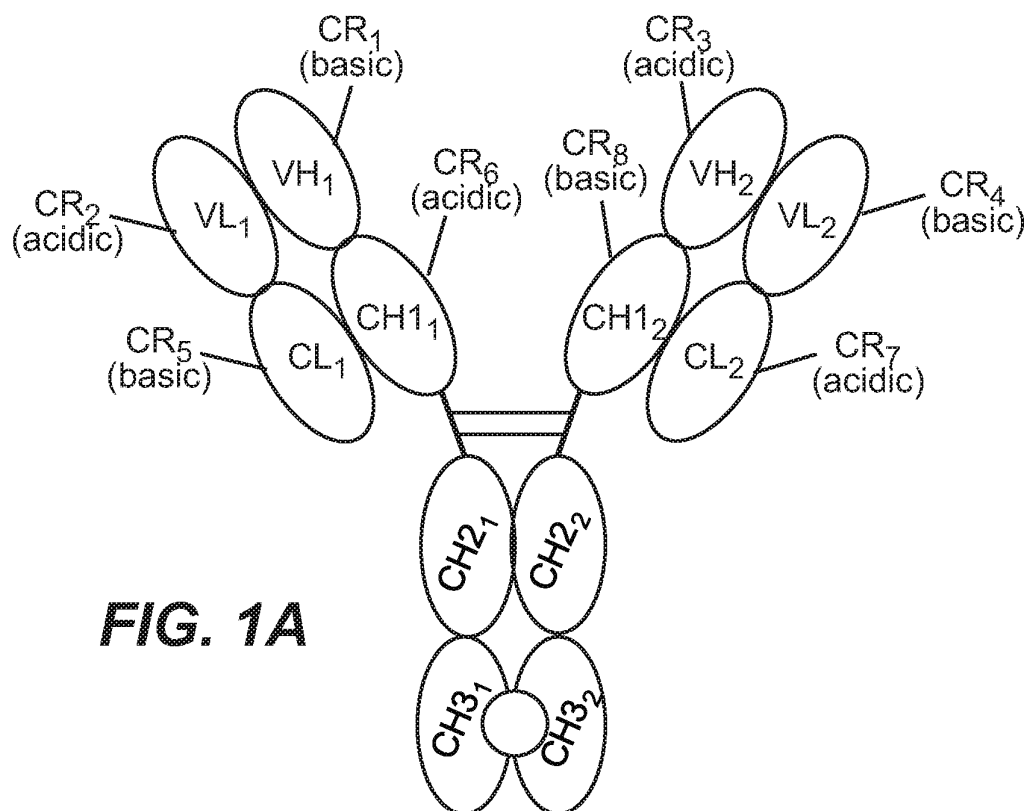
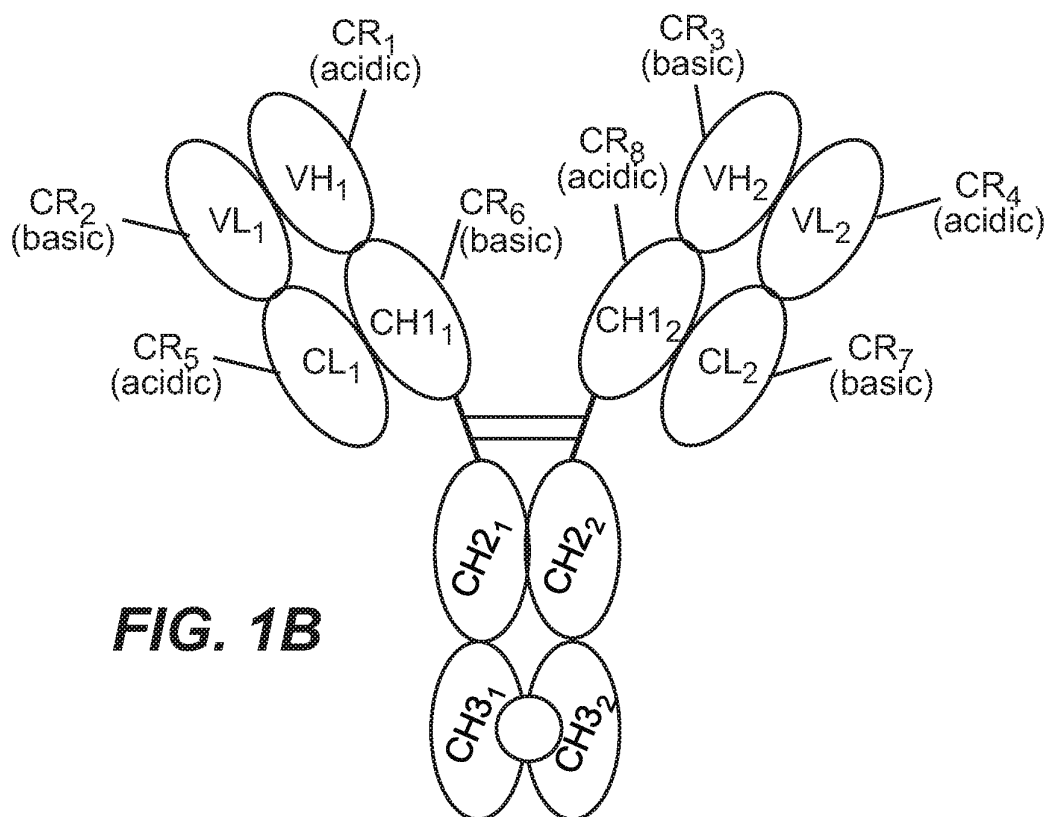
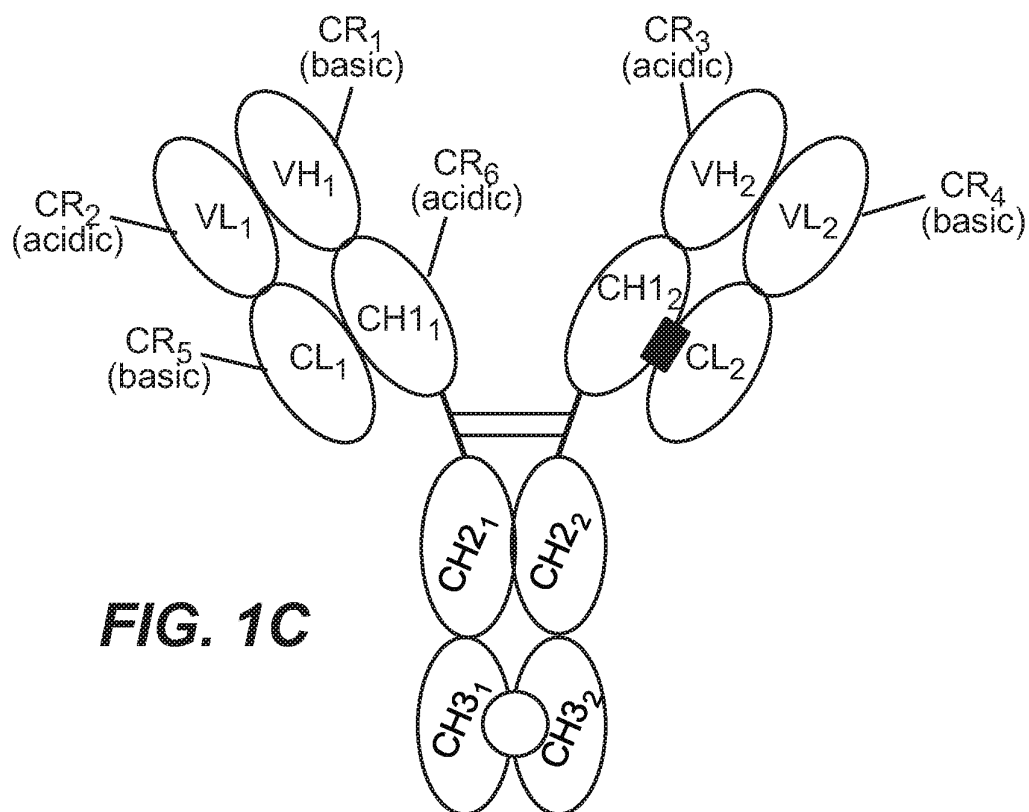
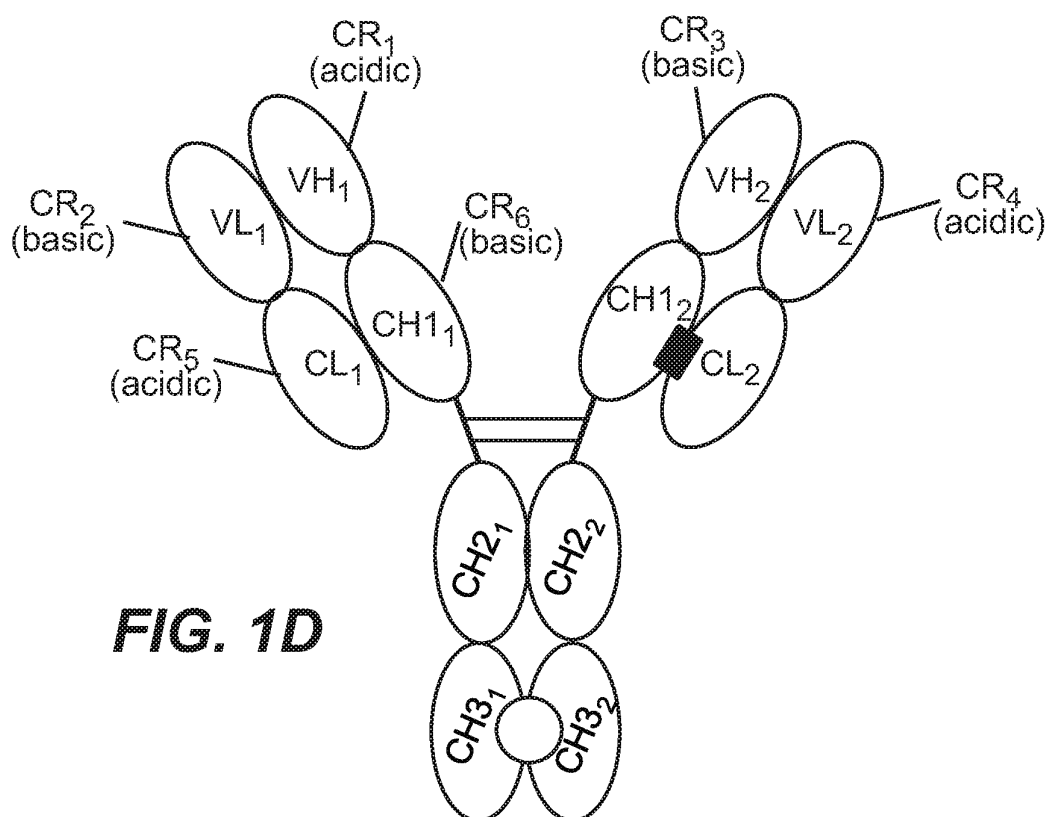


**FIG. 1A****FIG. 1B**



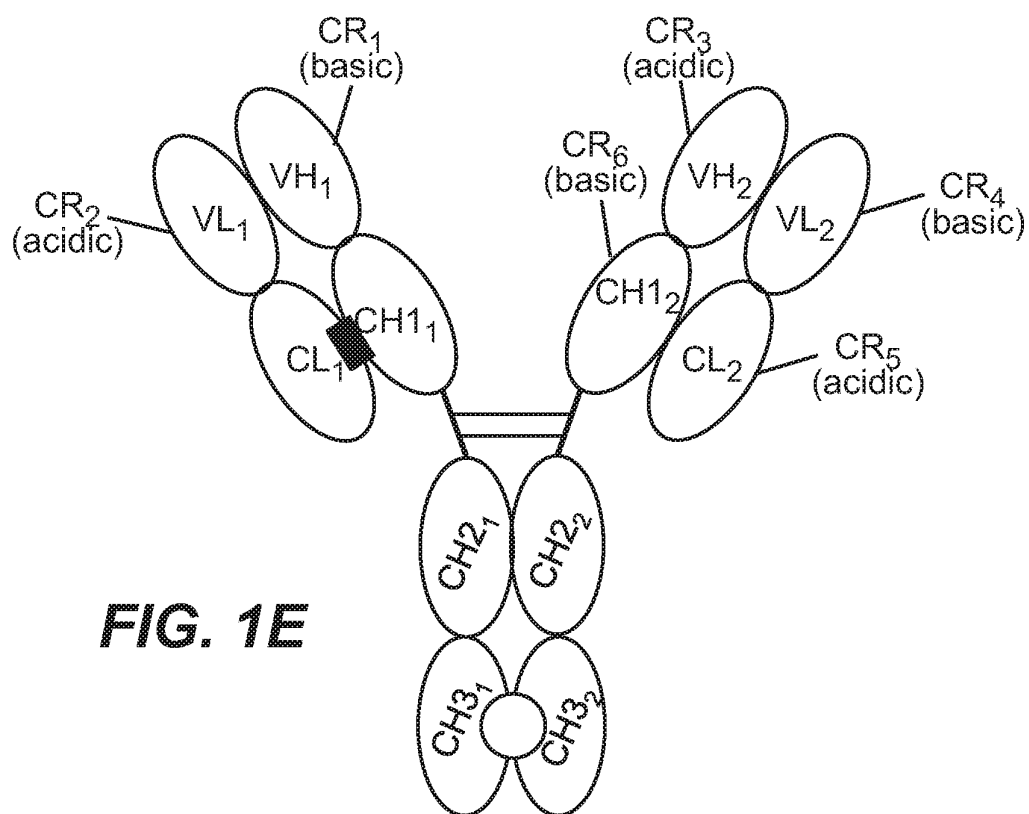
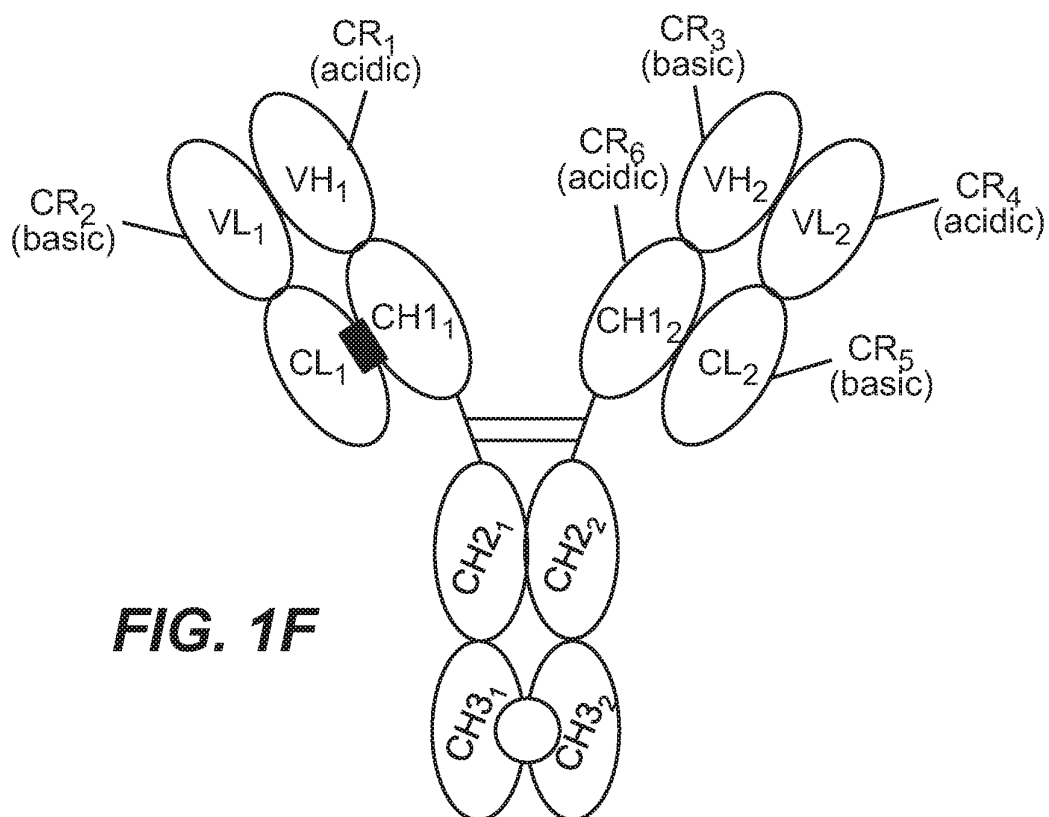
**FIG. 1E****FIG. 1F**

FIG. 2 Light chain variable domain

Kabat number	Sequence	HVR-L1 - Contact	HVR-L1 - Kabat
hu1G7.v1	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.1	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.2	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.3	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.4	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.5	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.6	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.7	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.13	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		
hu1G7.v1.13.1	DIQMTQSSPSSLSASVGDRTITCKKASQDVSNIVVWFQQKPGK		

Kabat number	Sequence	HVR-L2 - Contact	HVR-L2 - Kabat
hu1G7.v1	SPKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.1	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.2	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.3	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.4	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.5	SPKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.6	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.7	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.13	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		
hu1G7.v1.13.1	APKLLIYSGSYRYTGGVPSRFFSGSGSGTDFTLTISLSLQPEDFA		

Kabat number	Sequence	HVR-L3 - Contact	HVR-L3 - Kabat	SEQ ID NO
hu1G7.v1	TYCQQQHYSSPPYTFGQGGTKVEIK			83
hu1G7.v1.1	TYCQQQHYSSPPYTFGQGGTKVEIK			85
hu1G7.v1.2	TYCQQQHYSSPPYTFGQGGTKVEIK			87
hu1G7.v1.3	TYCQQQHYSSPPYTFGQGGTKVEIK			89
hu1G7.v1.4	TYCQQQHYSSPPYTFGQGGTKVEIK			91
hu1G7.v1.5	TYCQQQHYSSPPYTFGQGGTKVEIK			93
hu1G7.v1.6	TYCQQQHYSSPPYTFGQGGTKVEIK			95
hu1G7.v1.7	TYCQQQHYSSPPYTFGQGGTKVEIK			97
hu1G7.v1.13	TYCQQQHYSSPPYTFGQGGTKVEIK			99
hu1G7.v1.13.1	TYCQQQHYSSPPYTFGQGGTKVEIK			101

FIG. 3 Heavy chain variable domain

Kabat number	HVR-H1 - Contact		HVR-H1 - Kabat	
	1	2	3	4
hu1G7.v1	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.1	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.2	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.3	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.4	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.5	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.6	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.7	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.13	EVQLVESGGGLV	QPG	LV	QPG
hu1G7.v1.13.1	EVQLVESGGGLV	QPG	LV	QPG

Kabat number	HVR-H2 - Contact		HVR-H2 - Kabat	
	1	2	3	4
hu1G7.v1	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.1	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.2	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.3	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.4	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.5	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.6	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.7	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.13	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN
hu1G7.v1.13.1	KGLEWLGVIWRGGST	DYNA	AFMSRLT	ISKDN

Kabat number	HVR-H3 - Contact		HVR-H3 - Kabat	
	1	2	3	4
hu1G7.v1	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.1	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.2	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.3	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.4	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.5	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.6	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.7	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.13	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT
hu1G7.v1.13.1	VTAAADTAVYYCS	NHYYGSS	SDYALDN	WGQGT

(SEQ ID NO: 82)
(SEQ ID NO: 84)
(SEQ ID NO: 86)
(SEQ ID NO: 88)
(SEQ ID NO: 90)
(SEQ ID NO: 92)
(SEQ ID NO: 94)
(SEQ ID NO: 96)
(SEQ ID NO: 98)
(SEQ ID NO: 100)

		VL variants						
VH variants		v1	v1.3	v1.4	v1.5	v1.6	v1.7	
		v1	27.0		2.0			
	W52 mutated	W52F	253.5	177.0	119.0	47.5	81.4	76.6
		W52Y	146.0	641.0	131.0	177.0	529.0	136.0
		W52L	103.0	239.0	92.0	125.0	250.0	129.0
		W52H	120.0	65.5	60.4	67.3	109.0	89.8
	M64 mutated	M64I	29.8	2.1	2.5	2.7	2.7	2.6
		M64V	27.4	2.5	2.5*	2.5	2.7	2.5
		M64L	26.5	2.4	2.5	2.3	2.6	2.0
		M64F	25.9	2.2	2.5	1.4	2.6	2.4

* 1G7.v85

FIG. 4

Light chain variable domain

Kabat number	HVR-L1																																							
	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				
	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	S	N	Y	L	A	W	F
	hIGKV1-16*01	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	K	A	S	Q	.	.	.	.	D	V	S	N	L	V	V	W
hu1G7.v93	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	K	A	S	Q	.	.	.	.	D	V	R	N	L	V	V	W	F
hu1G7.v85	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	K	A	S	Q	.	.	.	.	D	V	R	N	L	V	V	W	F

Kabat number	HVR-L2																																					
	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			
	Q	Q	K	P	G	K	A	P	K	S	L	I	Y	A	A	S	S	L	.	.	.	.	.	Q	S	G	V	P	S	R	F	S	G	S	G	T	D	F
	hIGKV1-16*01	Q	Q	K	P	G	K	A	P	K	L	L	I	Y	S	G	S	Y	R	.	.	.	.	.	Y	S	G	V	P	S	R	F	S	G	S	G	T	D
hu1G7.v93	Q	Q	K	P	G	K	A	P	K	L	L	I	Y	S	G	S	Y	R	.	.	.	.	.	Y	S	G	V	P	S	R	F	S	G	S	G	T	D	F
hu1G7.v85	Q	Q	K	P	G	K	A	P	K	L	L	I	Y	S	G	S	Y	R	.	.	.	.	.	Y	S	G	V	P	S	R	F	S	G	S	G	T	D	F

Kabat number	HVR-L3																																								
	72	73	74	75	76	77	78	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					
	T	L	T	I	S	S	L	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	Y	N	S	Y	P	.	.	.	.	.	Y	T	F	G	Q	G	T	K	L	E	I	K
	hIGKV1-16*01	T	L	T	I	S	S	L	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	H	Y	S	P	P	.	.	.	.	.	Y	T	F	G	Q	G	T	K	V	E	I
hu1G7.v93	T	L	T	I	S	S	L	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	H	Y	S	P	P	.	.	.	.	.	Y	T	F	G	Q	G	T	K	V	E	I	K
hu1G7.v85	T	L	T	I	S	S	L	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	H	Y	S	P	P	.	.	.	.	.	Y	T	F	G	Q	G	T	K	V	E	I	K

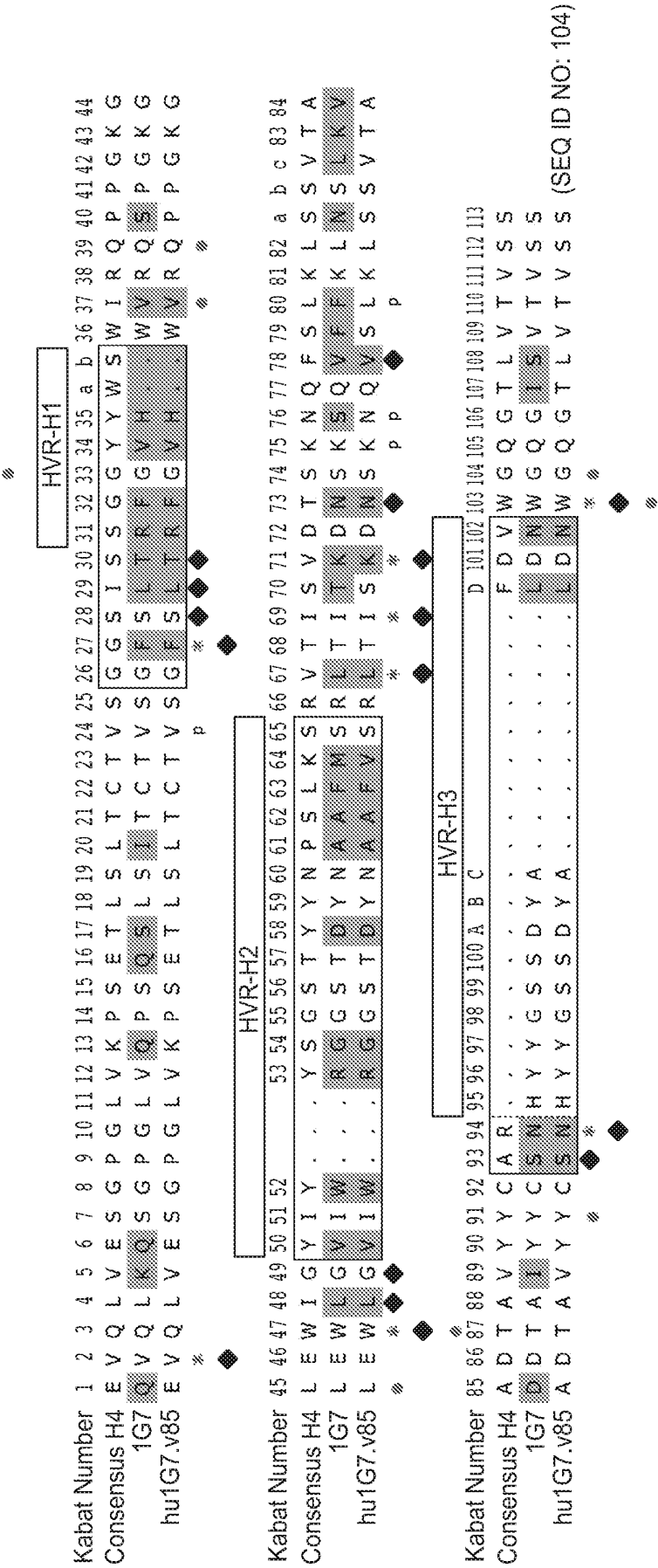
(SEQ ID NO: 107)

(SEQ ID NO: 105)

(SEQ ID NO: 107)
(SEQ ID NO: 105)

FIG. 5B

Heavy Chain Variable Domain



◆ Vernier positions; Foote and Winter JMB (1992) 224:487
* FW-CDR interactions; Padlan Mol. Immunol. (1994) 31:169
◆ VH-VL interactions; Padlan Mol. Immunol. (1994) 31:169

FIG. 6A

Light Chain Variable Domain

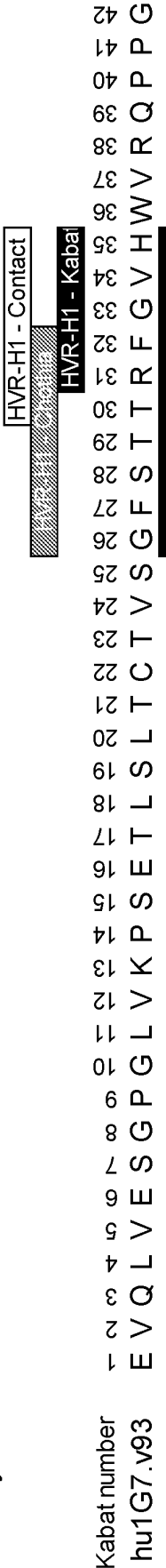
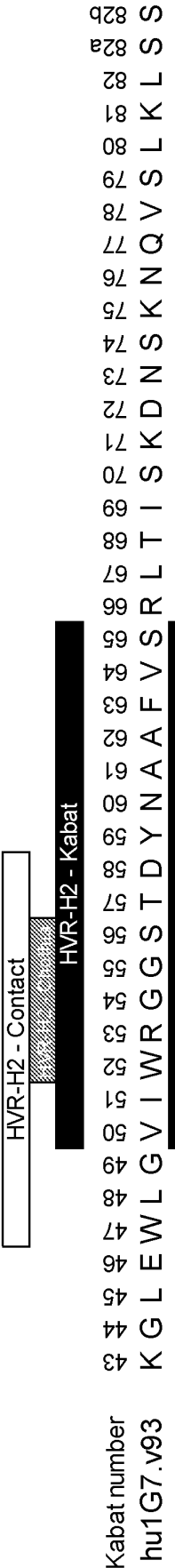
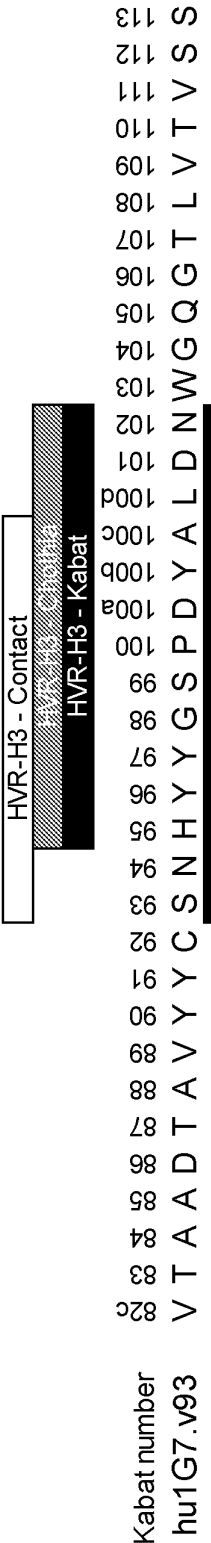
HVR-L1																																									
Kabat Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36					
Consensus K1	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	.	.	.	.	G	I	S	S	Y	L	A	W	Y	
1G7	D	I	V	M	T	Q	S	H	K	I	M	S	T	S	V	G	D	R	V	S	I	T	C	K	A	S	Q	.	.	.	.	D	V	S	N	I	V	V	W	F	
hu1G7.v85	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	K	A	S	Q	.	.	.	.	D	V	R	N	L	V	V	W	F	
	*		*																																		*	*			
	◆		◆																																			◆	◆		
HVR-L2																																									
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						
Consensus K1	Q	K	P	G	K	A	P	K	L	L	I	Y	A	A	S	S	L	.	.	.	.	Q	S	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F			
1G7	Q	K	P	G	Q	S	P	N	L	L	I	Y	S	A	S	Y	R	.	.	.	.	Y	T	G	V	P	D	R	F	T	G	S	G	S	G	T	D	F			
hu1G7.v85	Q	K	P	G	K	A	P	K	L	L	I	Y	S	G	S	Y	R	.	.	.	.	Y	S	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F			
	*		*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
	◆		◆																																			◆	◆		
HVR-L3																																									
Kabat Number	72	73	74	75	76	77	78	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					
Consensus K1	T	L	T	I	S	S	L	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	Y	Y	S	Y	P	.	.	.	.	Y	T	F	G	Q	G	T	K	V	E	I	K	
1G7	T	F	T	I	S	S	V	Q	A	E	D	L	A	V	Y	Y	C	Q	Q	H	Y	S	S	P	.	.	.	.	Y	T	F	G	G	G	T	K	L	E	I	K	
hu1G7.v85	T	L	T	I	S	S	L	Q	P	E	D	F	A	T	Y	Y	C	Q	Q	H	Y	S	P	P	.	.	.	.	Y	T	F	G	Q	G	T	K	V	E	I	K	
	*		*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
	◆		◆																																			◆	◆		

(SEQ ID NO: 105)

◆ Vernier positions; Foote and Winter JMB (1992) 224:487
* FW-CDR interactions; Padlan Mol. Immunol. (1994) 31:169
◆ VH-VL interactions; Padlan Mol. Immunol. (1994) 31:169

FIG. 6B

Heavy chain variable domain



(SEQ ID NO: 106)

FIG. 7A

Light chain variable domain

Kabat number	HVR-L1 - Contact																						
	HVR-L1 - Kabat																						
hu1G7.v93	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C
	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
	K	P	G	K	Q	Q	F	V	V	L	V	S	N	L	V	S	Q	D	K	A	S	Q	K

Kabat number	HVR-L2 - Contact																						
	HVR-L2 - Kabat																						
hu1G7.v93	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
	A	P	K	L	L	I	Y	S	G	S	Y	R	Y	S	G	V	P	S	R	F	S	G	S
	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62
	A	F	D	E	P	Q	L	S	S	I	T	L	T	F	D	T	G	S	G	S	S	S	S

Kabat number	HVR-L3 - Contact																						
	HVR-L3 - Kabat																						
hu1G7.v93	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107
	T	Y	Y	C	Q	Q	H	Y	S	P	P	Y	T	F	G	Q	G	T	K	V	E	I	K
	(SEQ ID NO: 107)																						

FIG. 7B

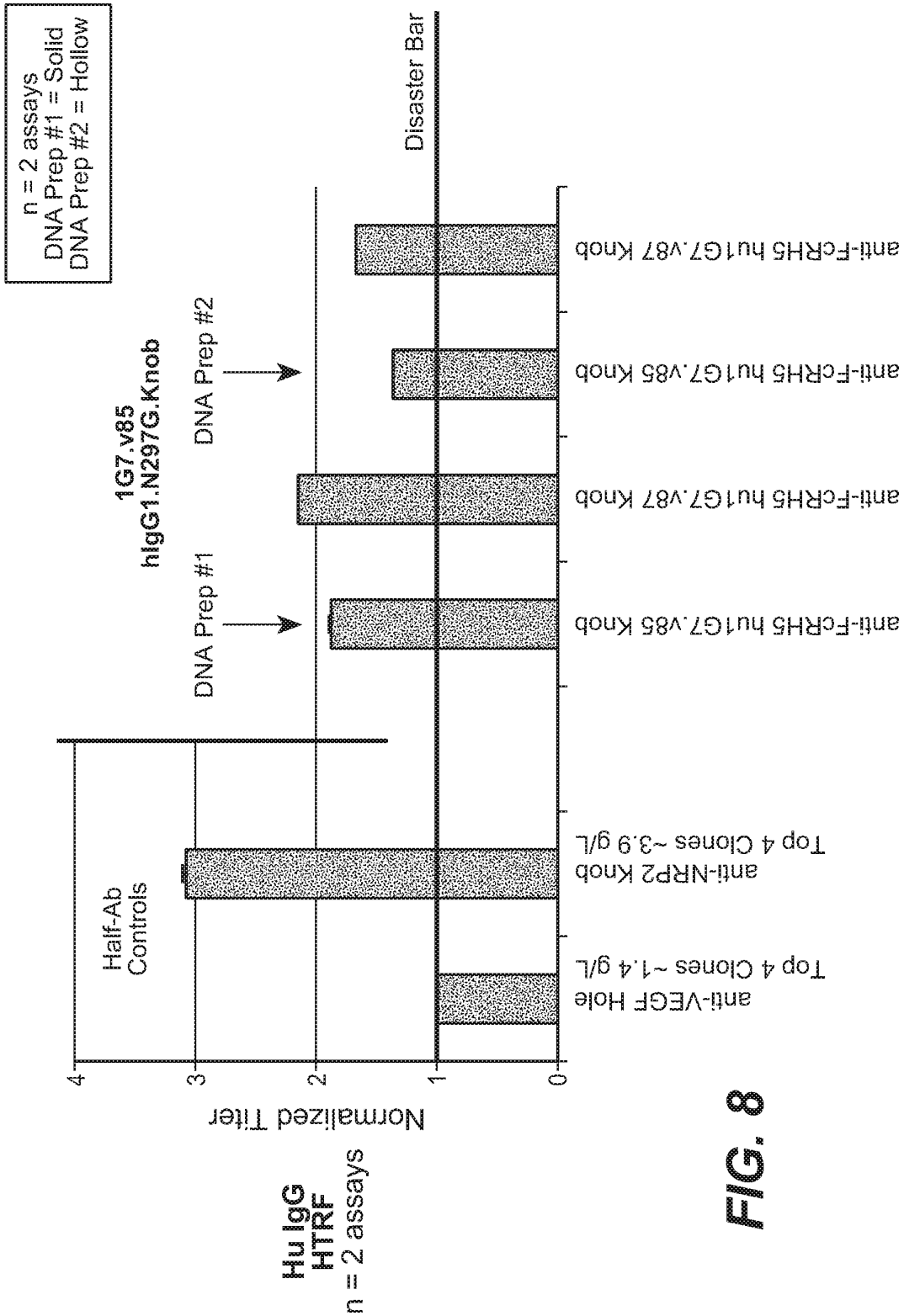


FIG. 8

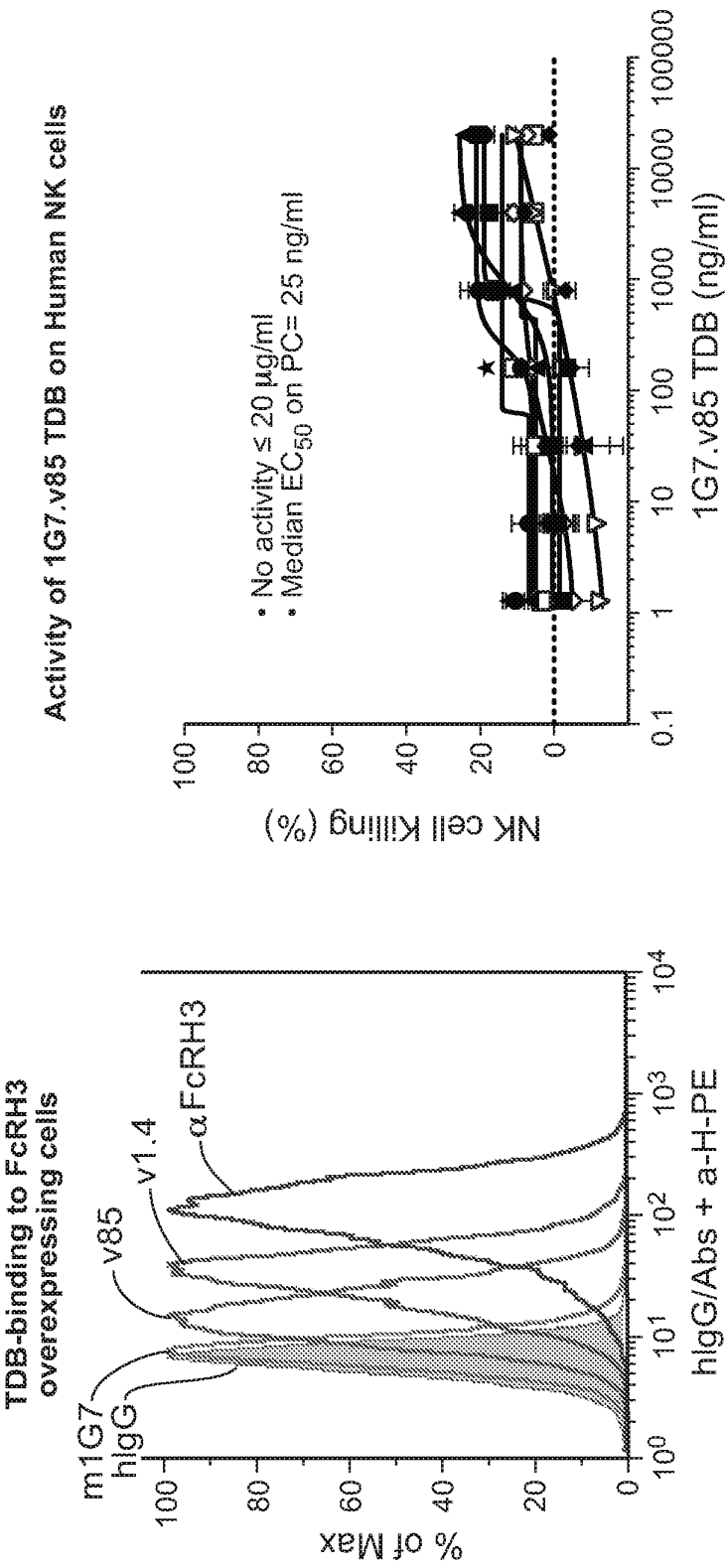
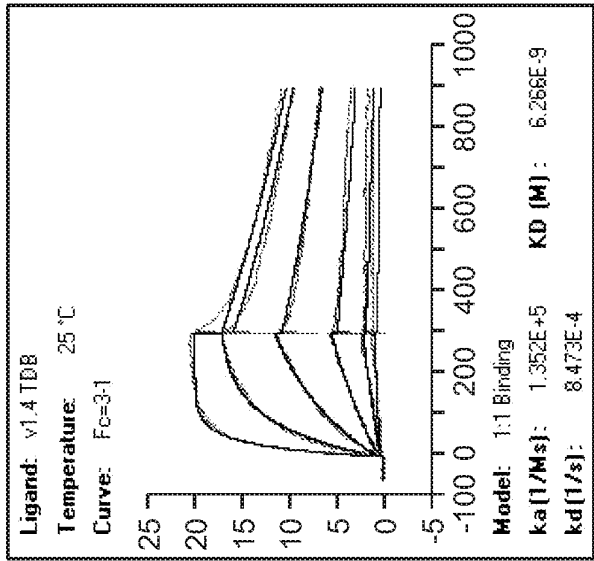


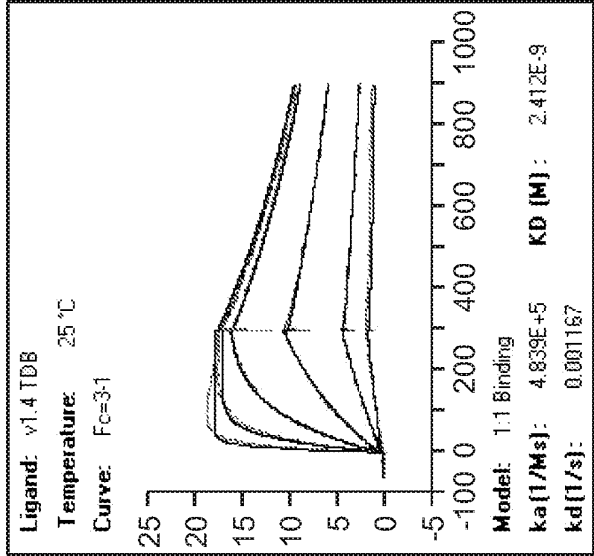
FIG. 9A

FIG. 9B

Cyno FcRH5



Hu FcRH5



FcRH3

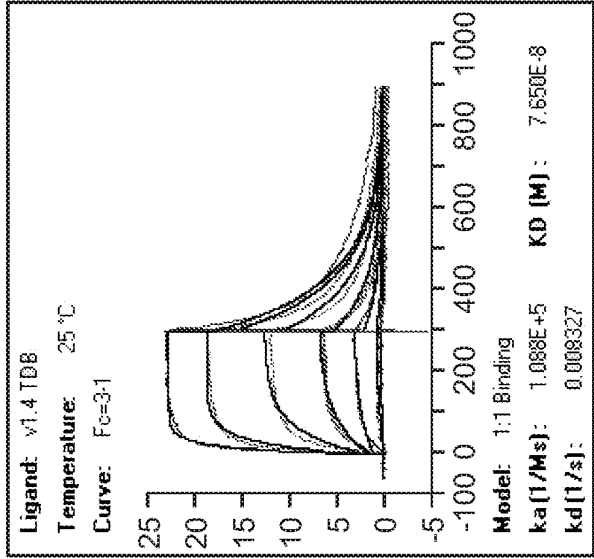
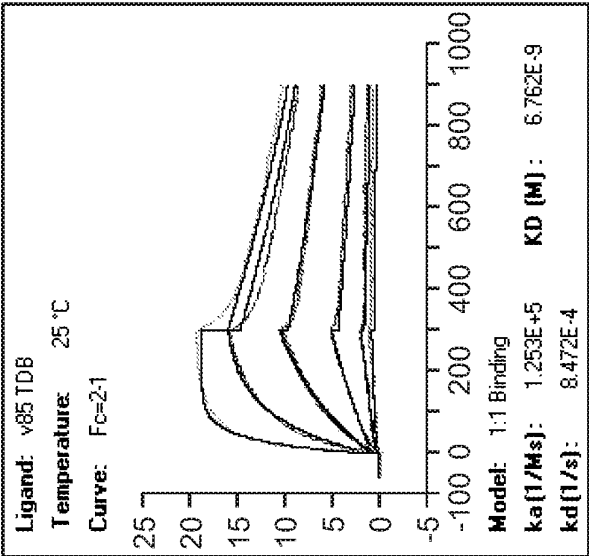
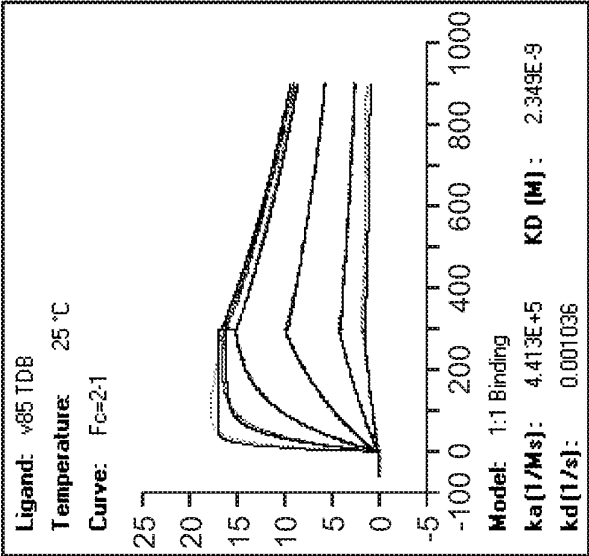


FIG. 10A

Cyno FcRH5



Hu FcRH5



FcRH3

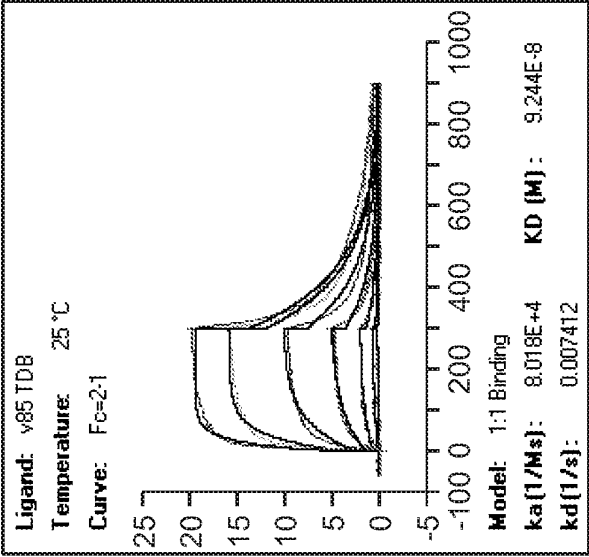
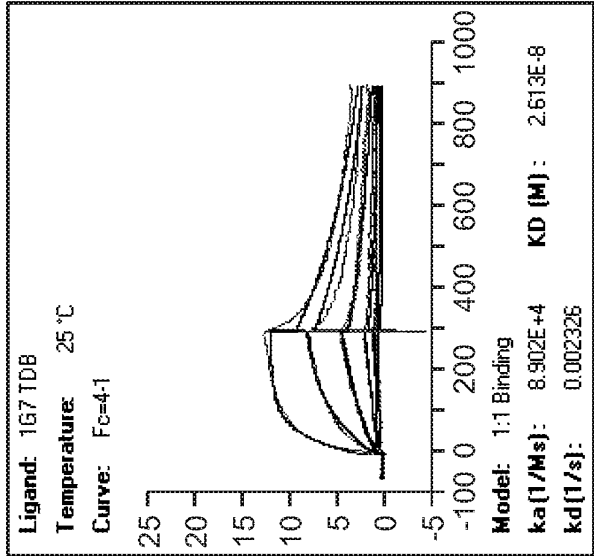
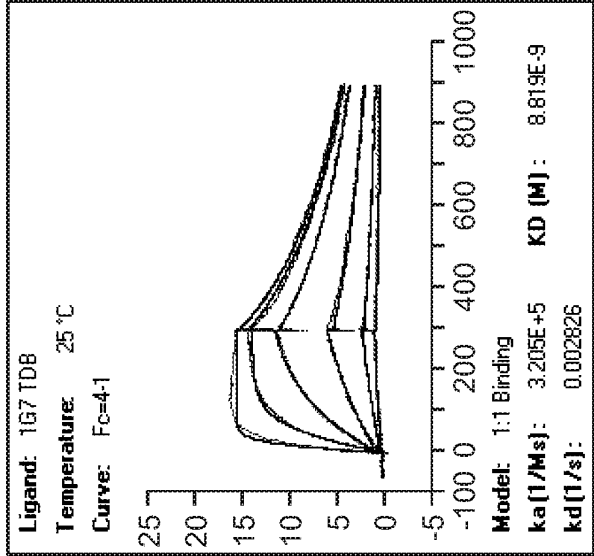


FIG. 10B

Cyno FcRH5



Hu FcRH5



FcRH3

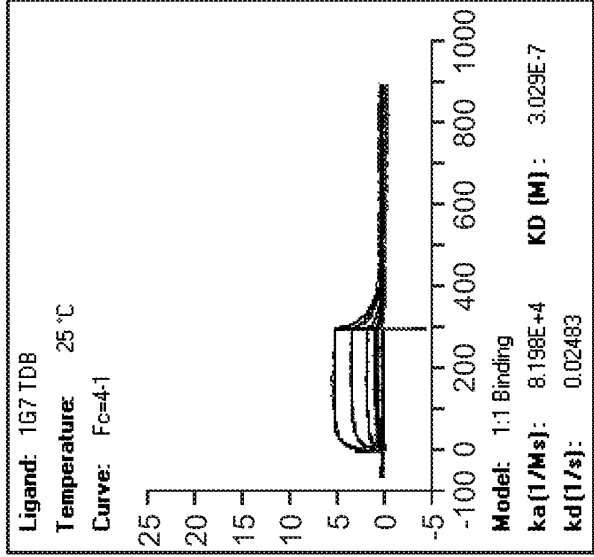
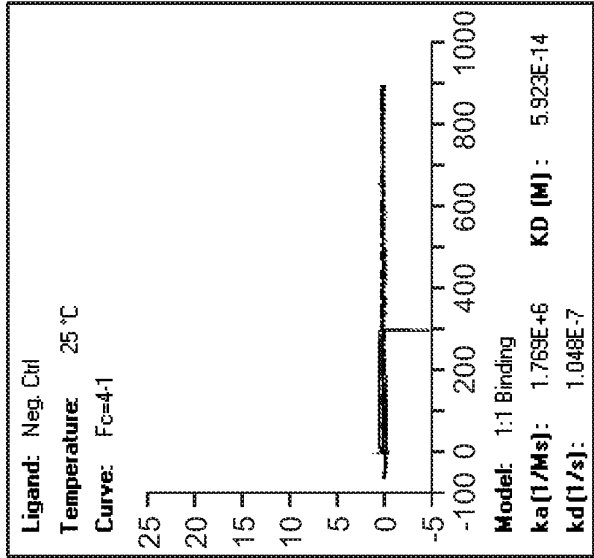
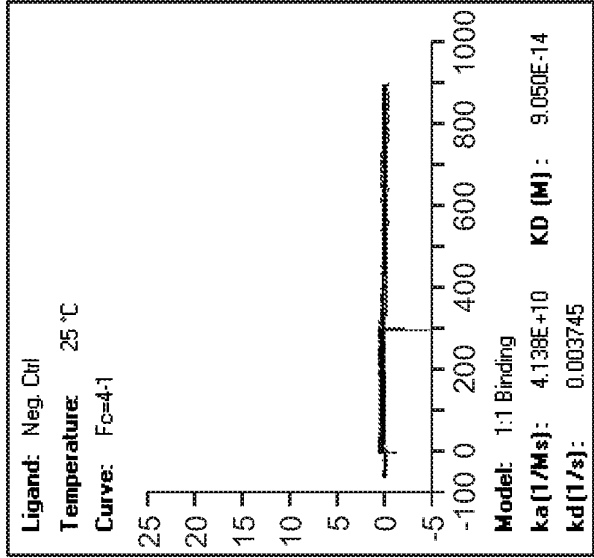


FIG. 10C

Cyno FcRH5



Hu FcRH5



FcRH3

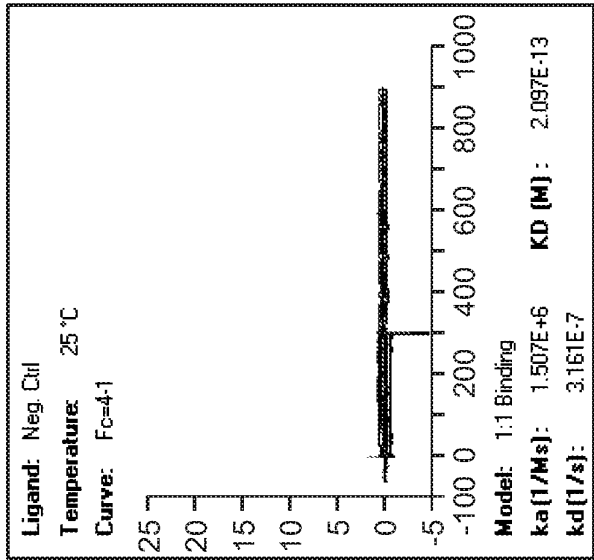


FIG. 10D

Heavy chain variable domain

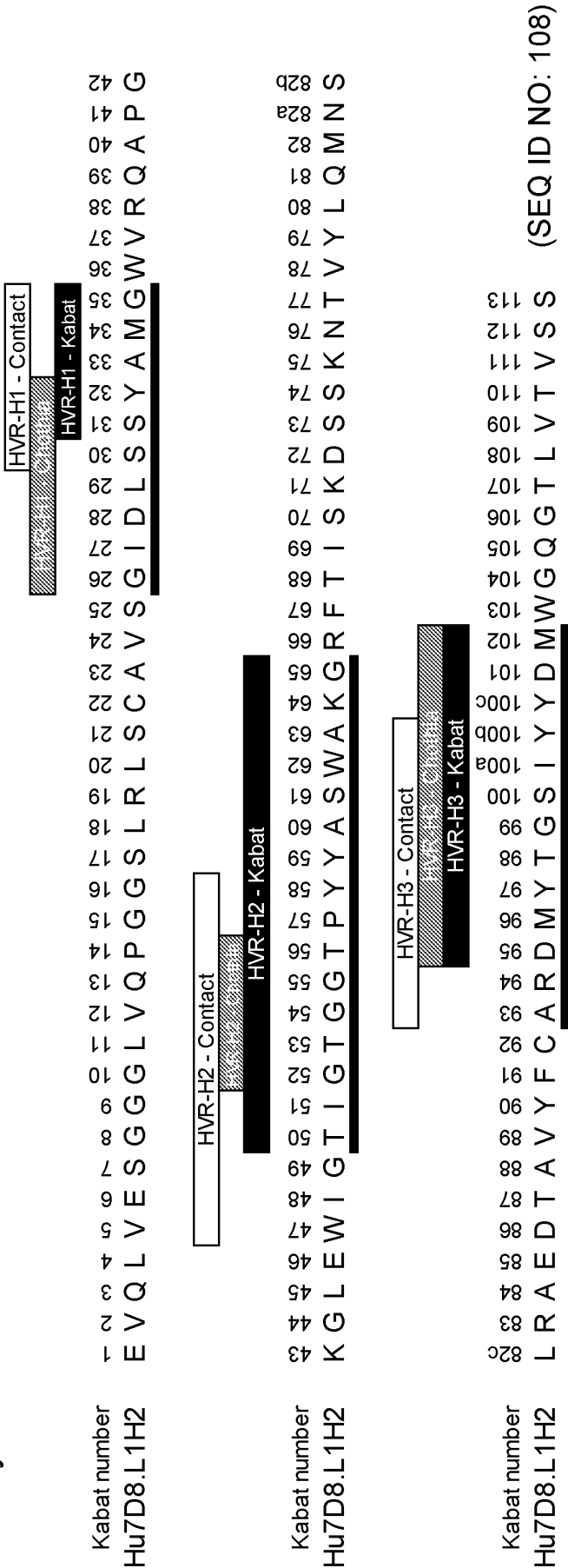


FIG. 11A

Light chain variable domain

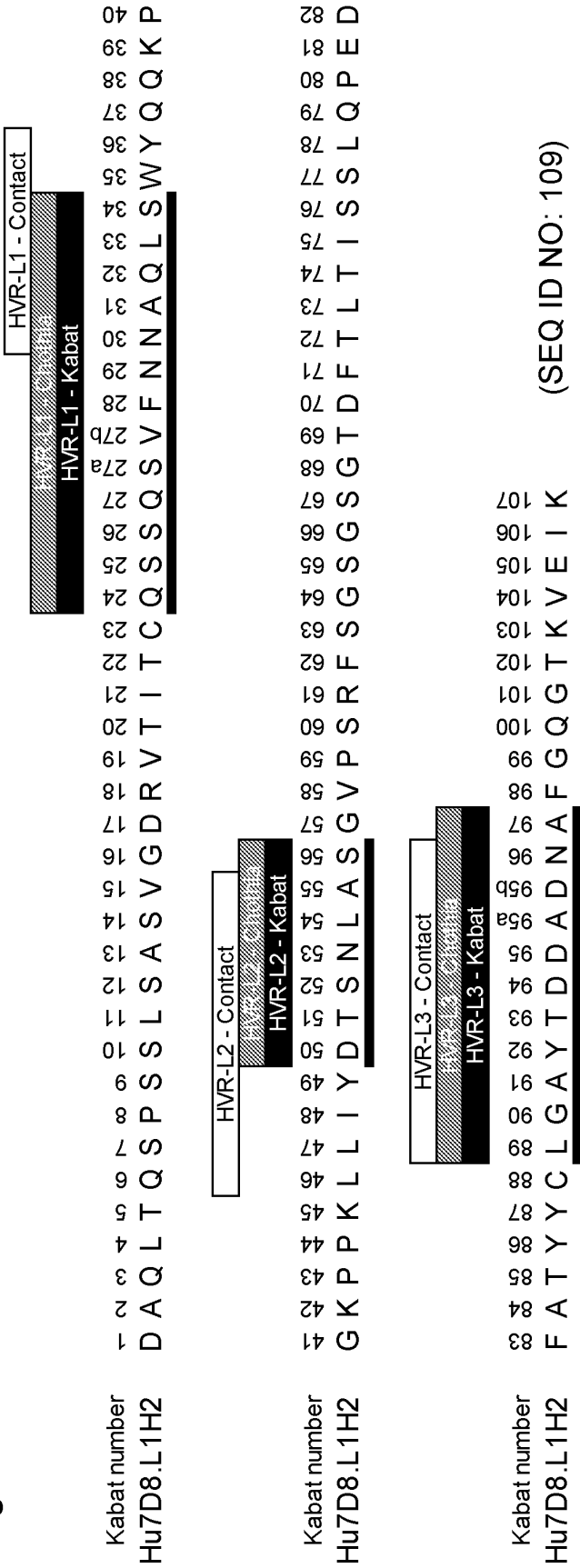


FIG. 11B

Heavy chain variable domain

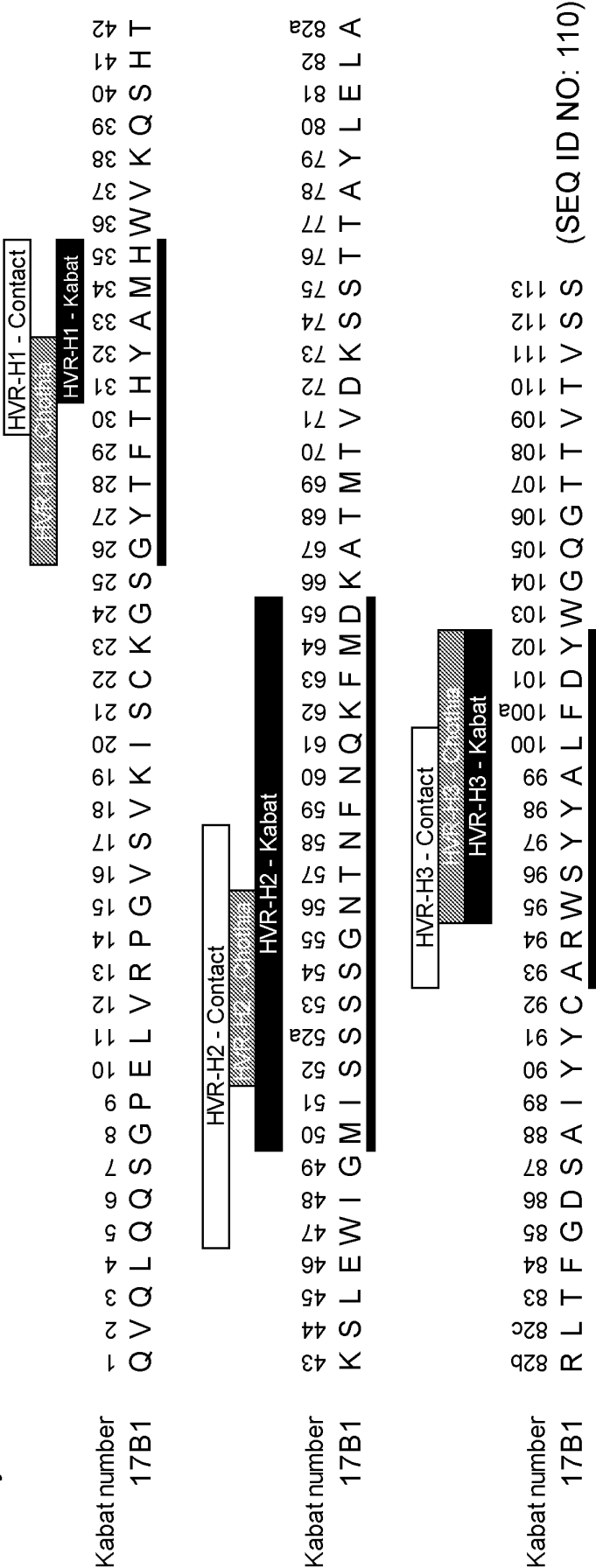


FIG. 12A

Heavy chain variable domain

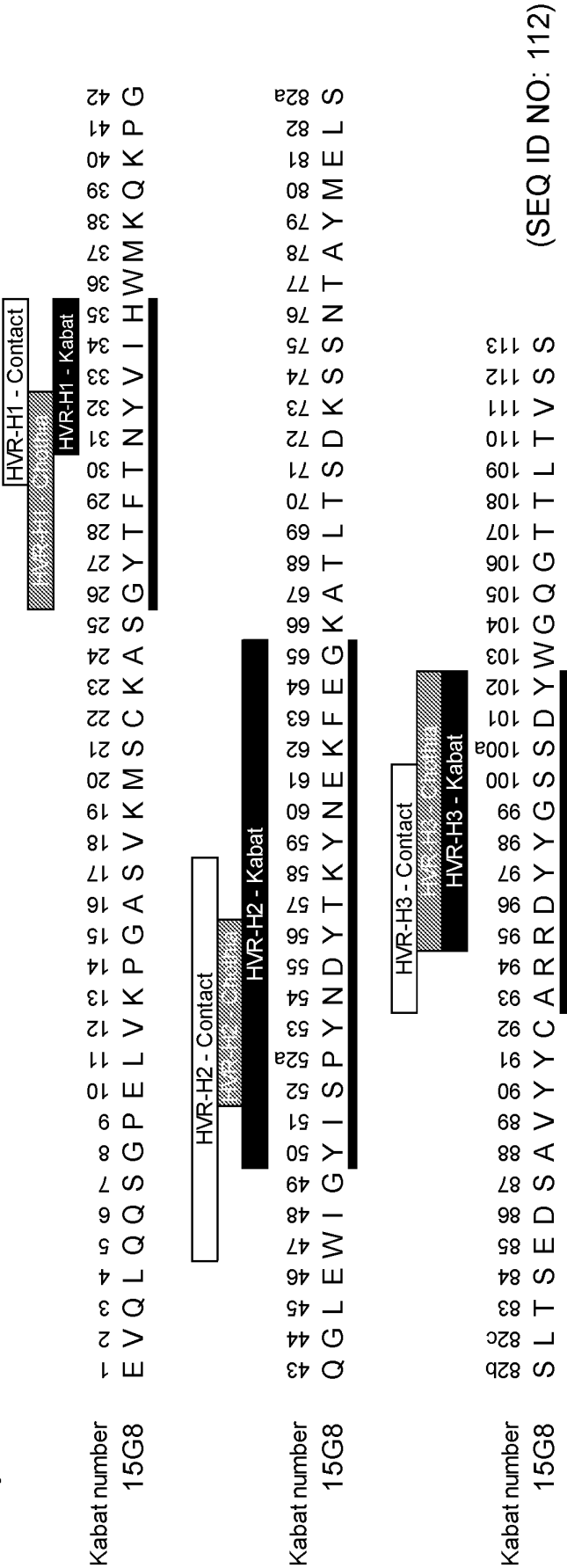


FIG. 13A

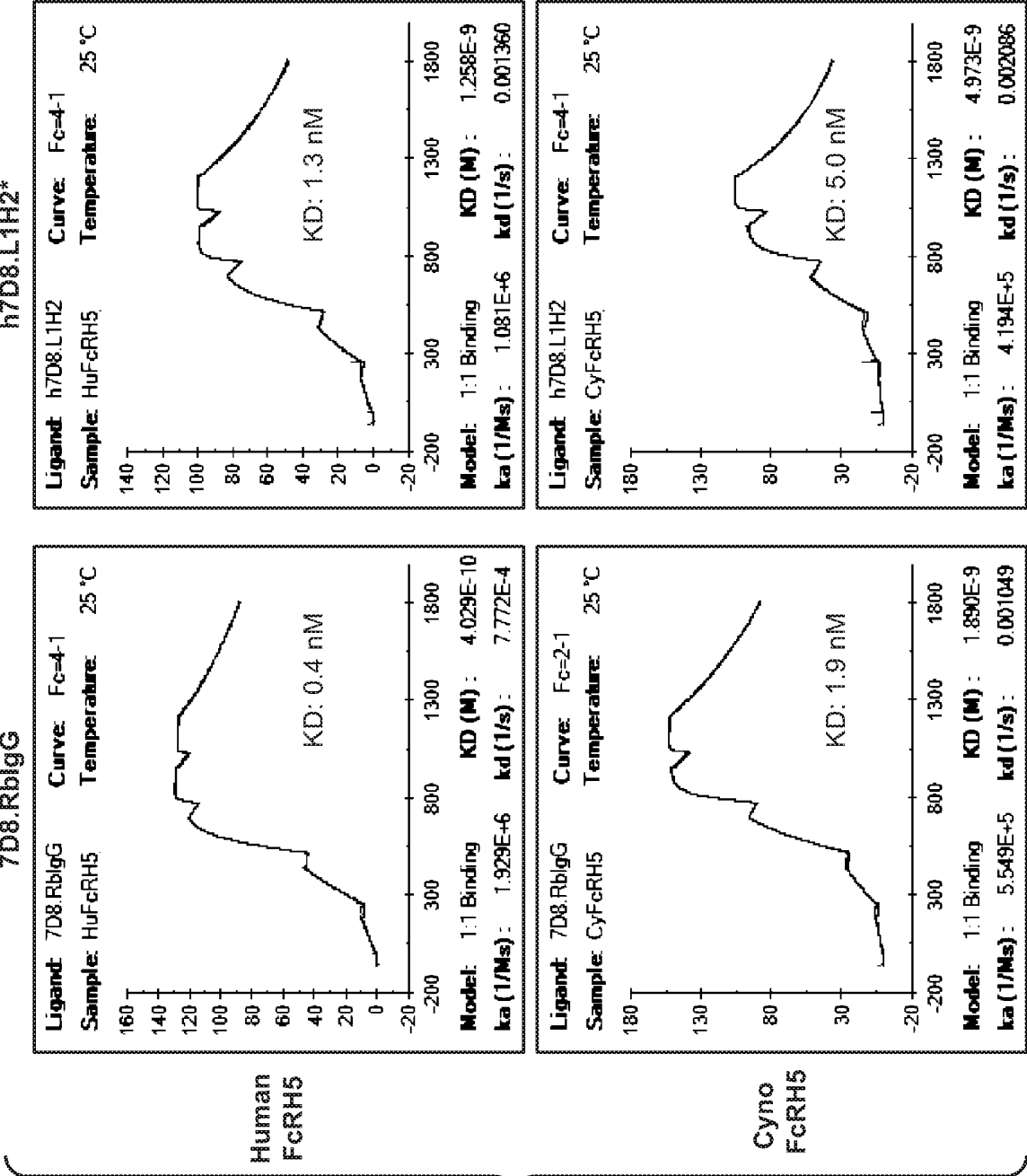
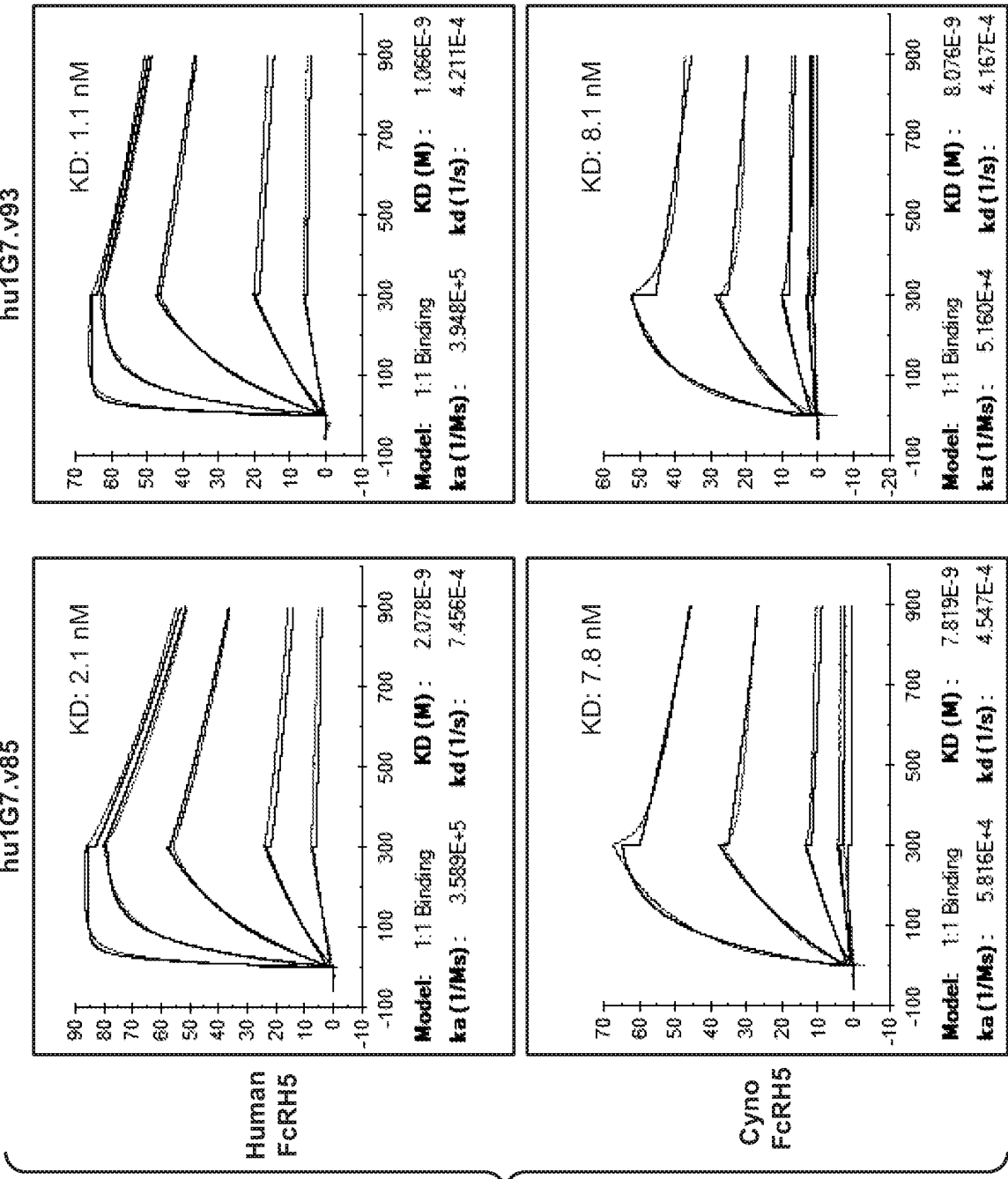


FIG. 14



1G7.v85 TDB
Hu FcRH5

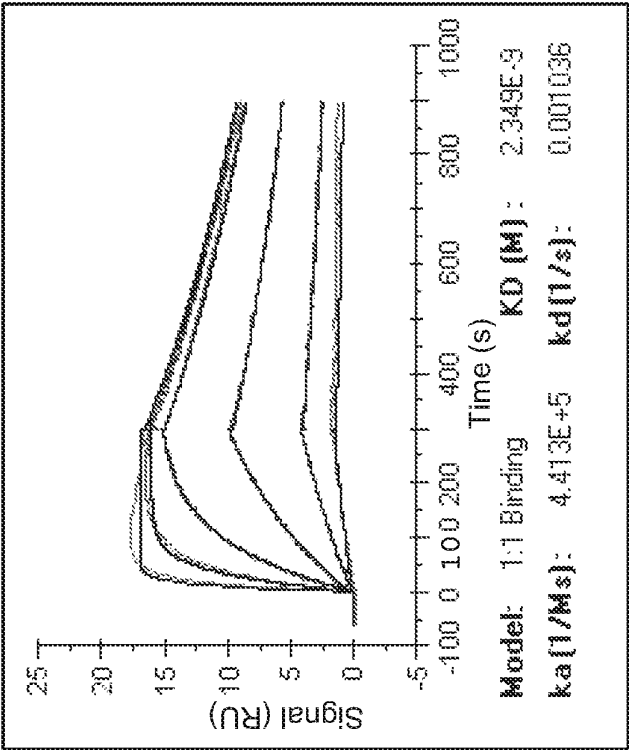


FIG. 16A

1G7.v85 TDB
Cyno FcRH5

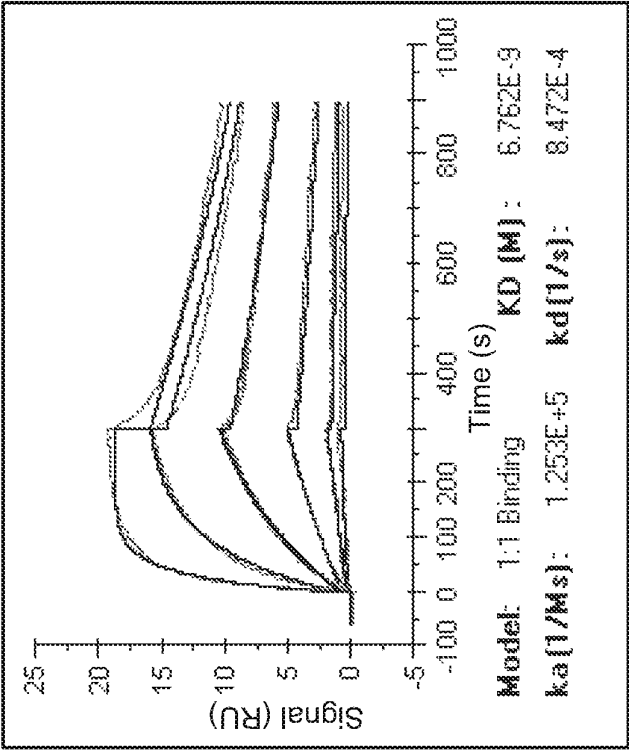
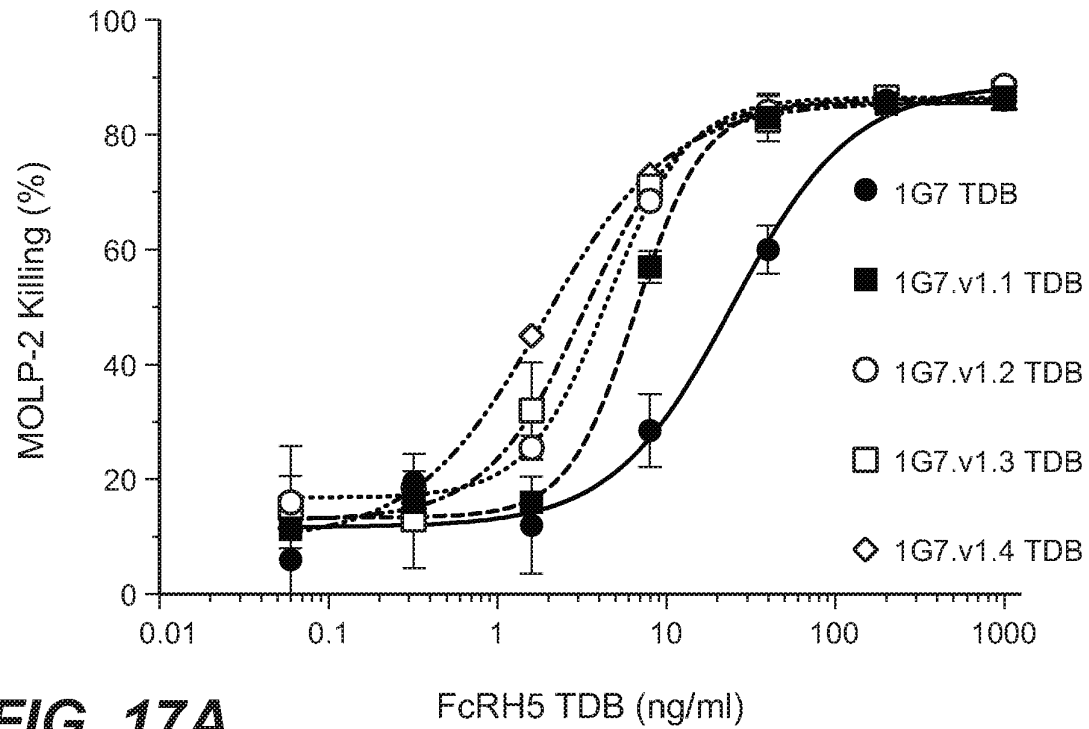
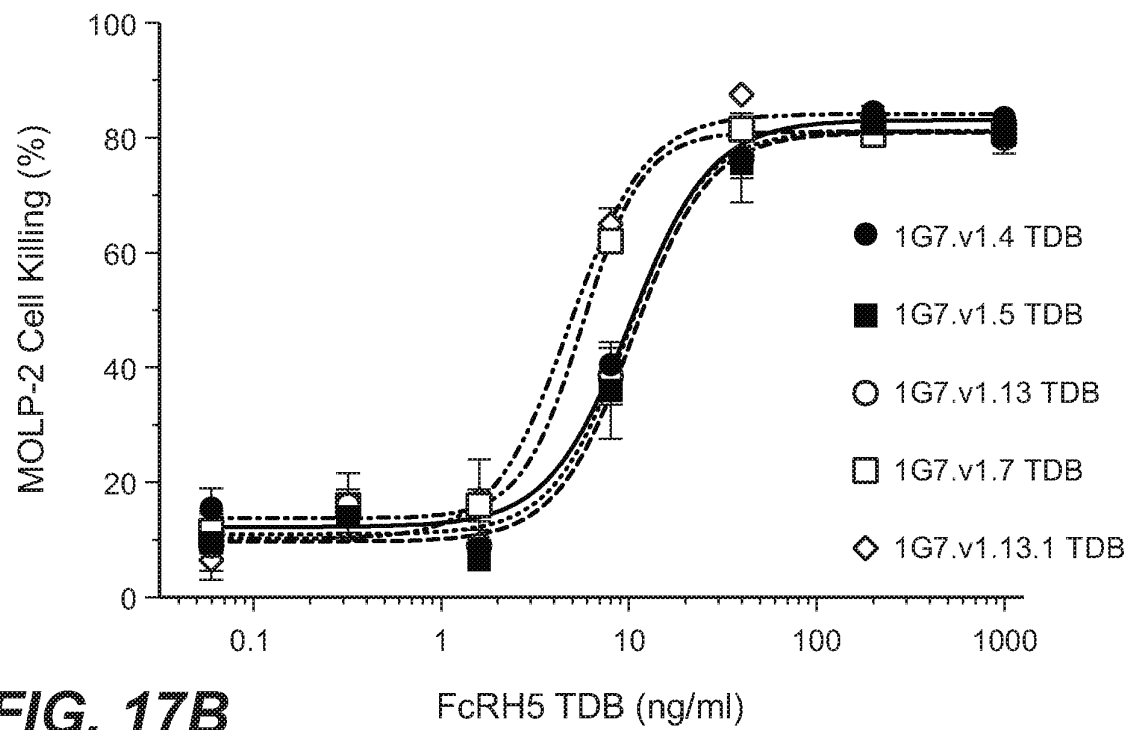
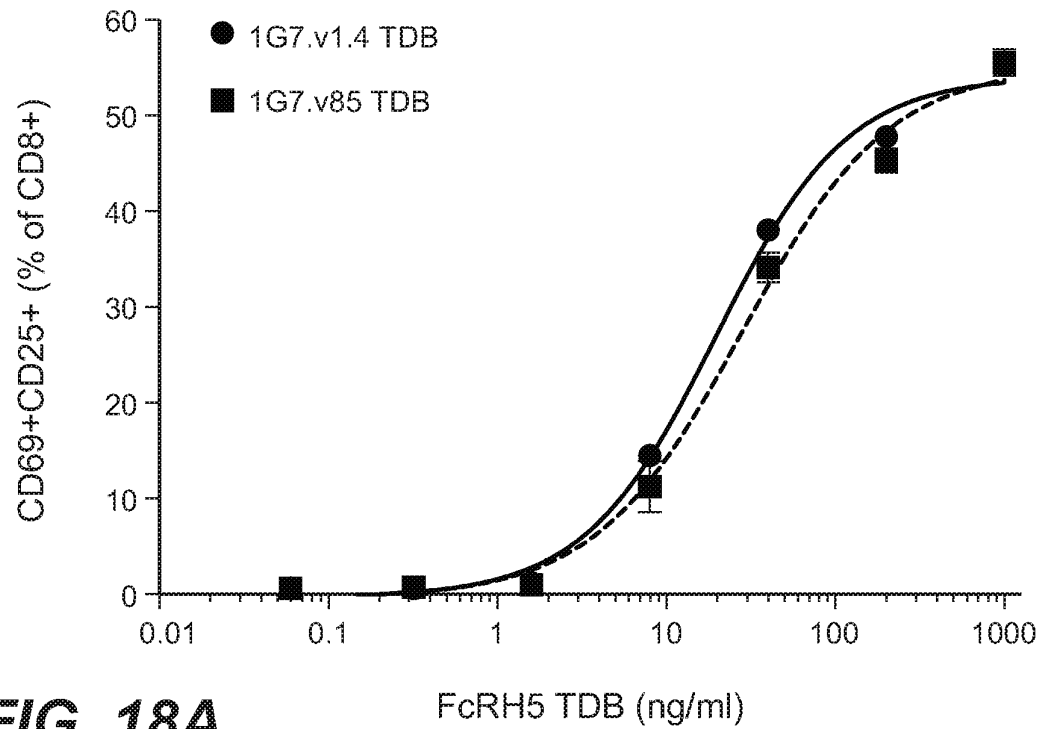
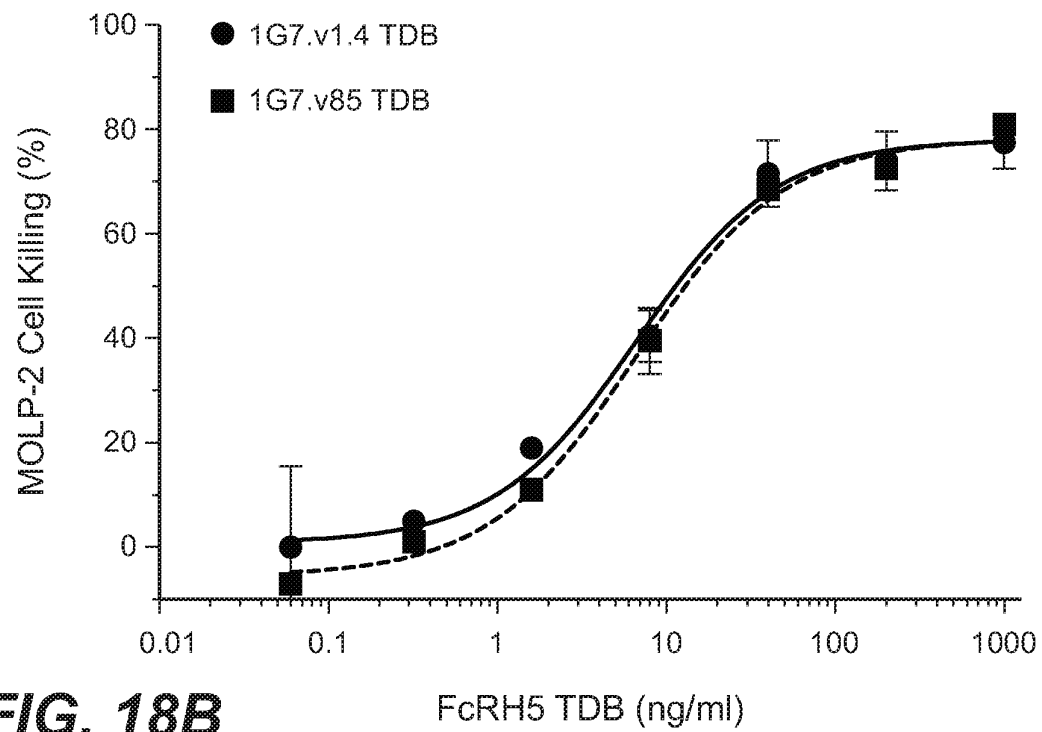


FIG. 16B

**FIG. 17A****FIG. 17B**

**FIG. 18A****FIG. 18B**

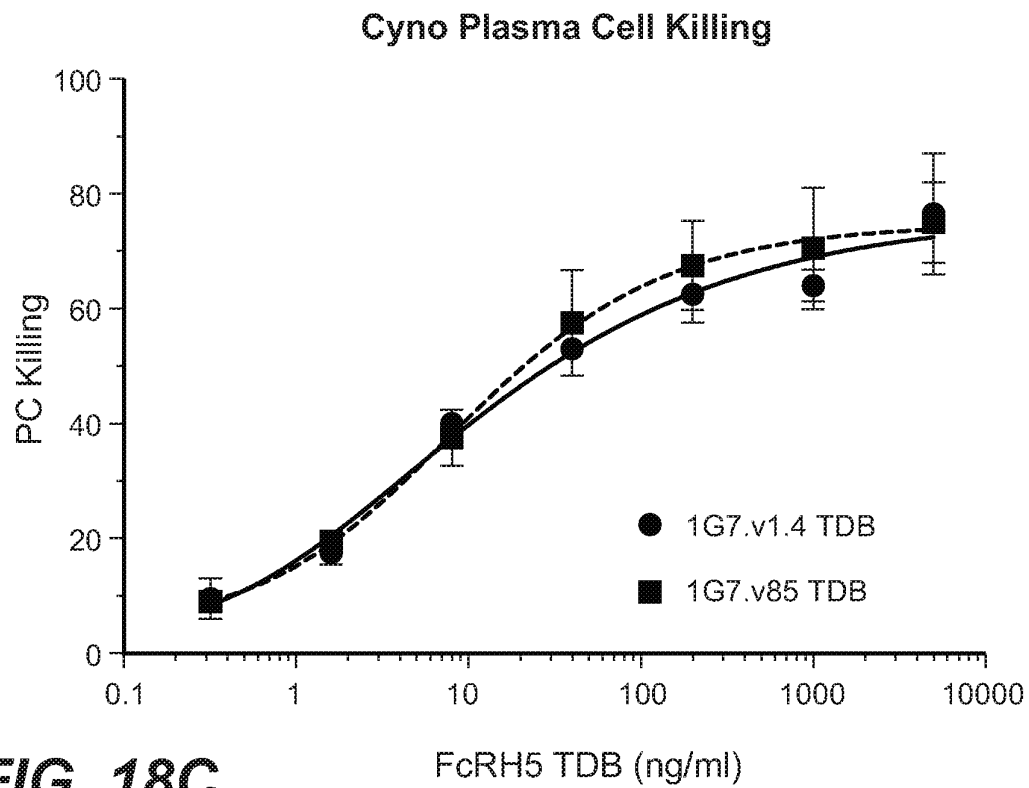
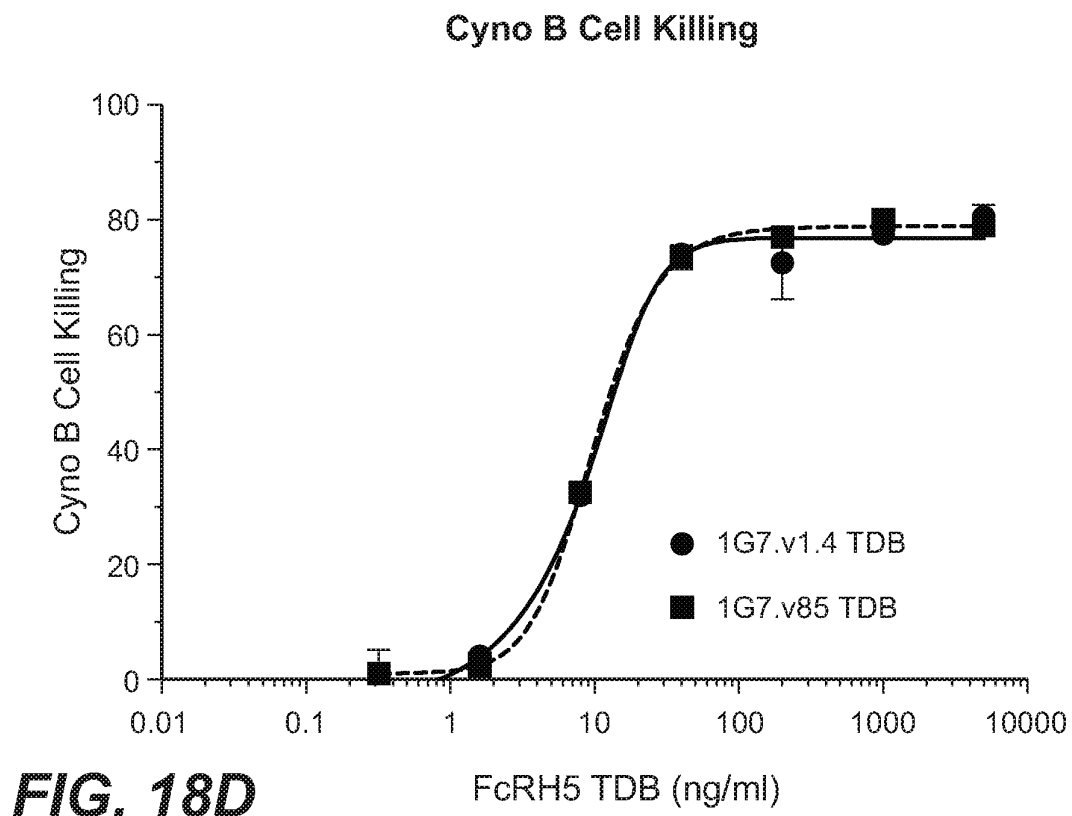
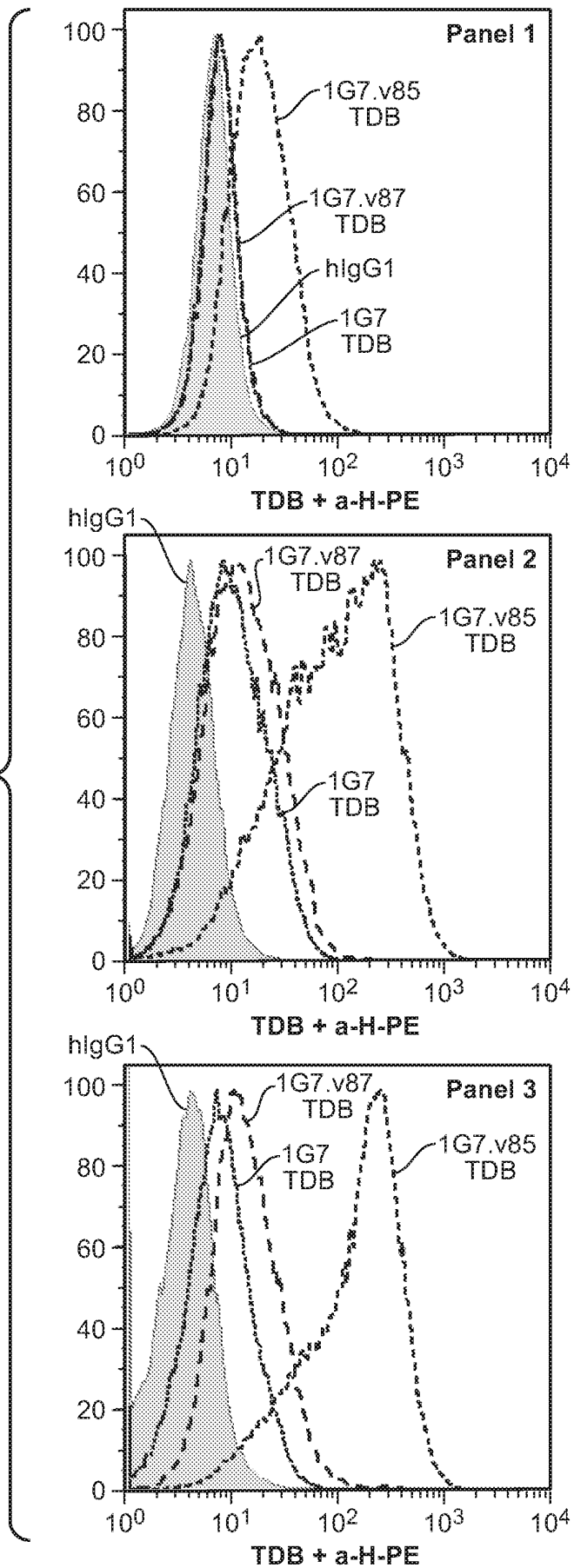
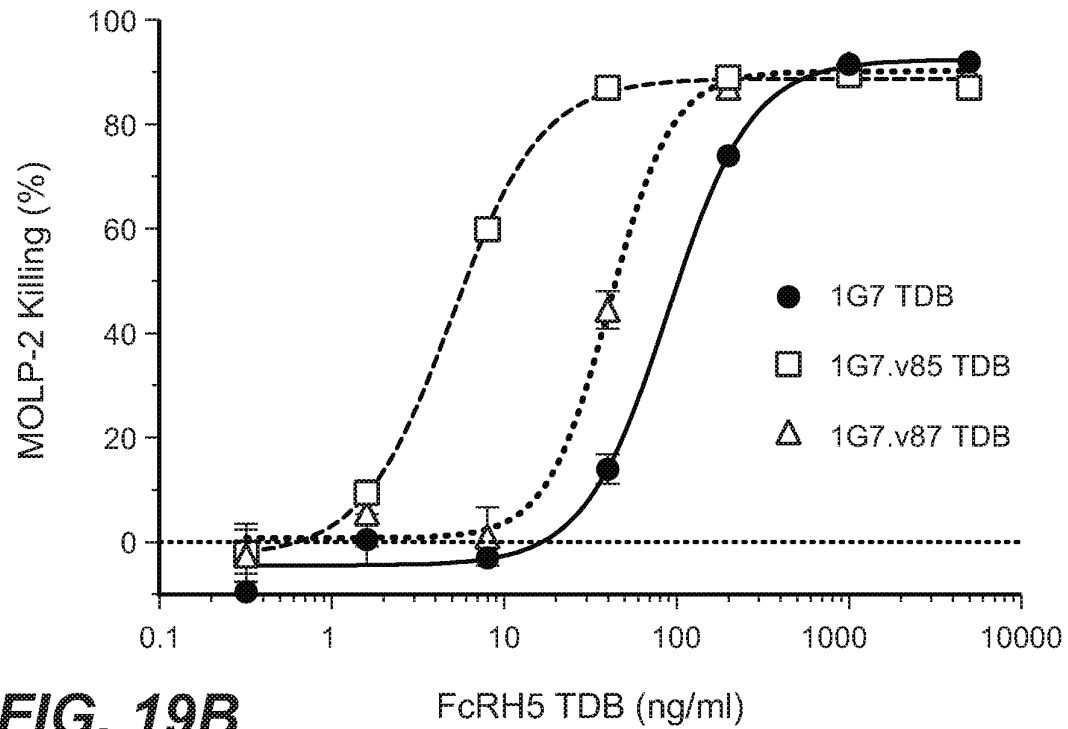
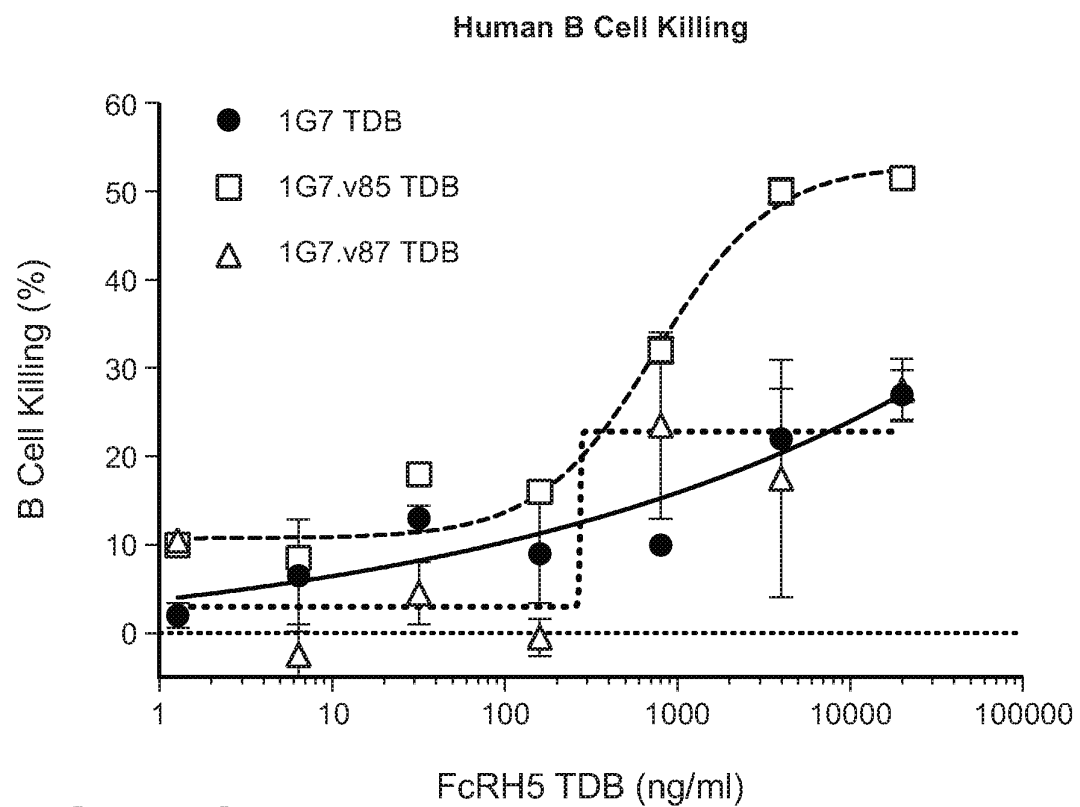
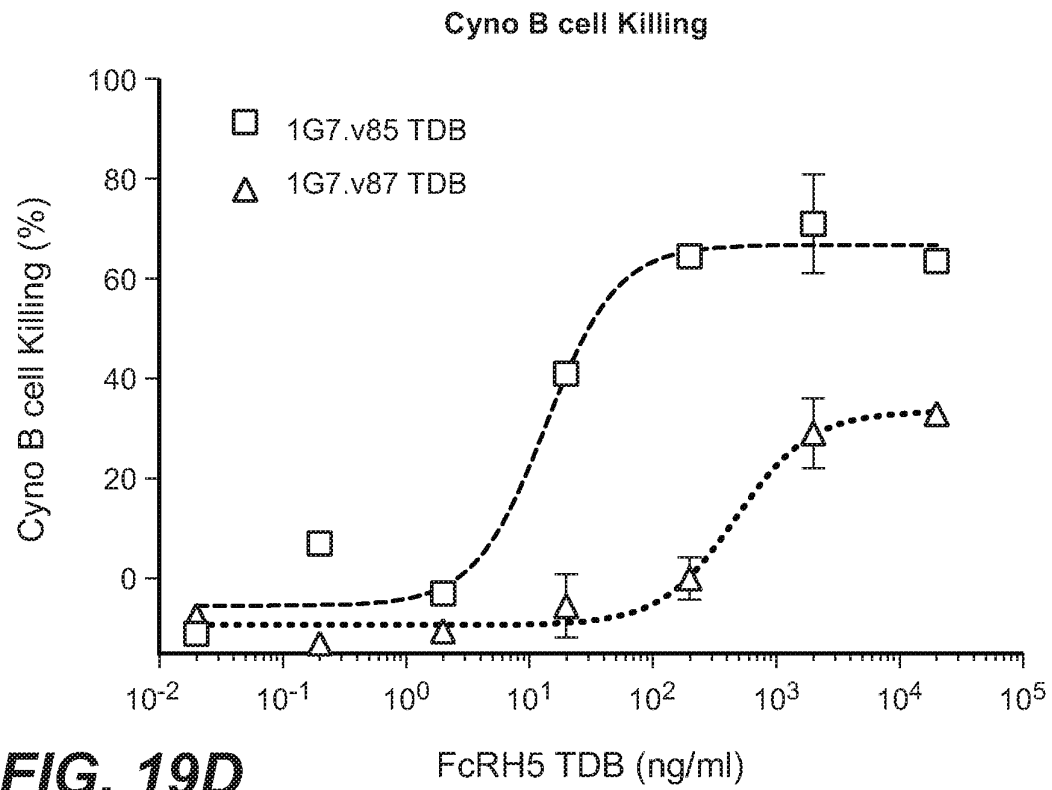
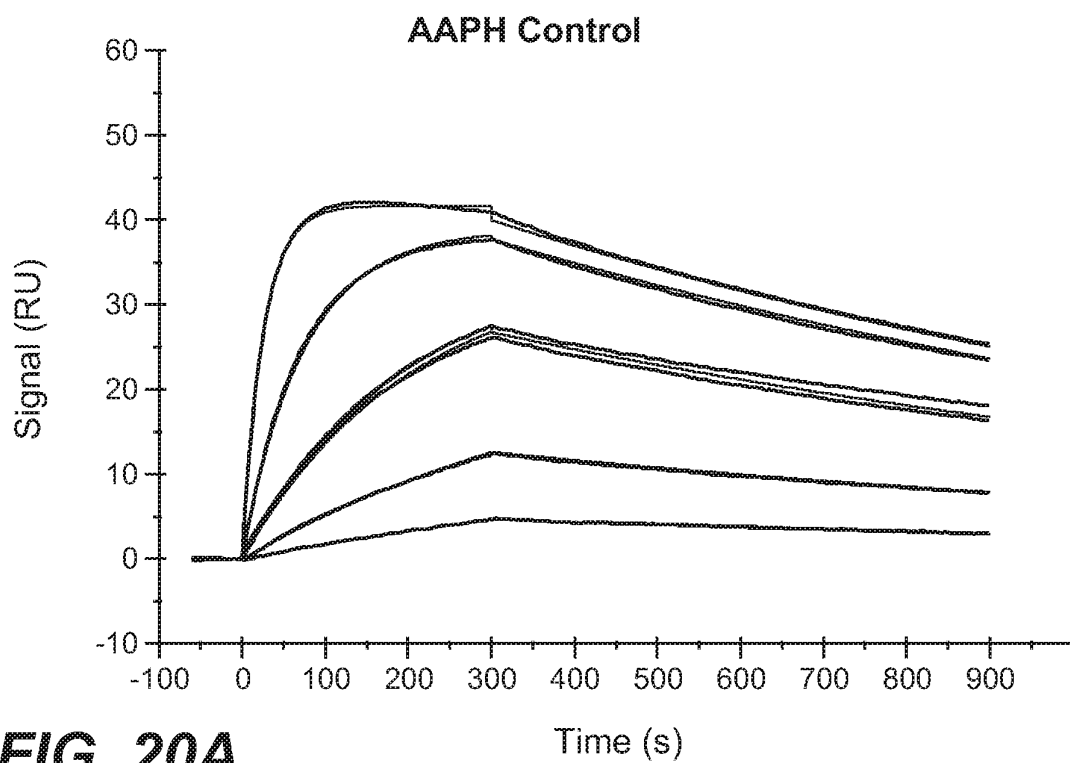
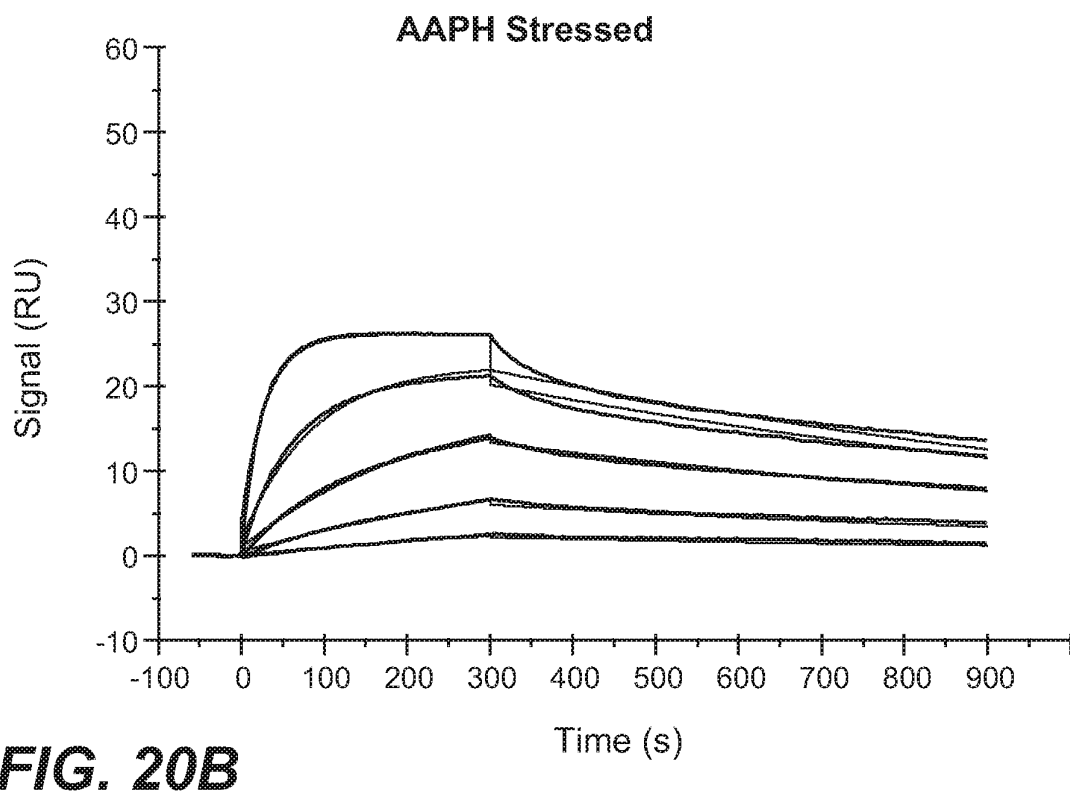
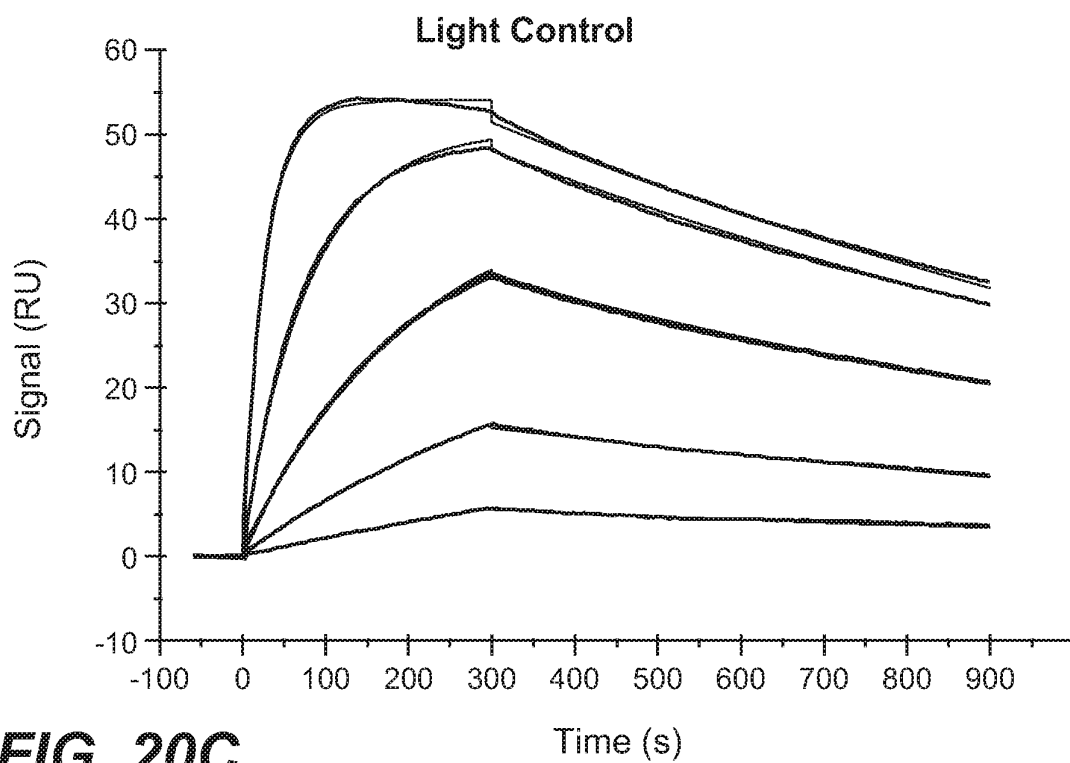
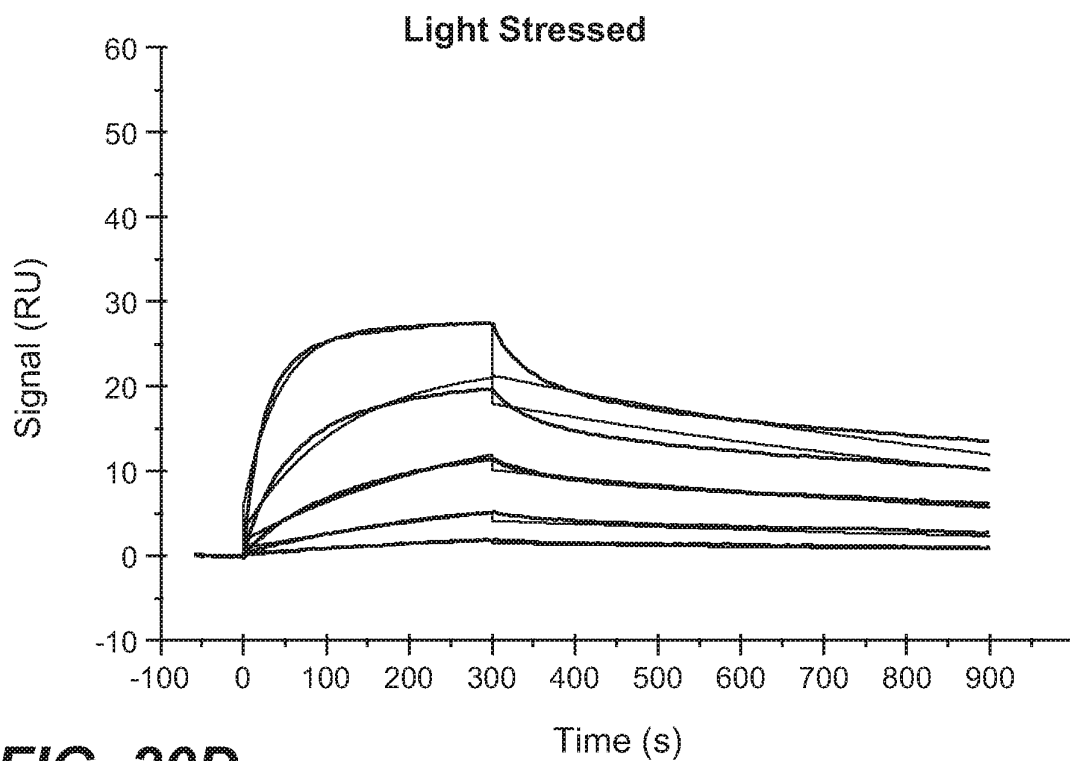


FIG. 19A

**FIG. 19B****FIG. 19C**





**FIG. 20C****FIG. 20D**

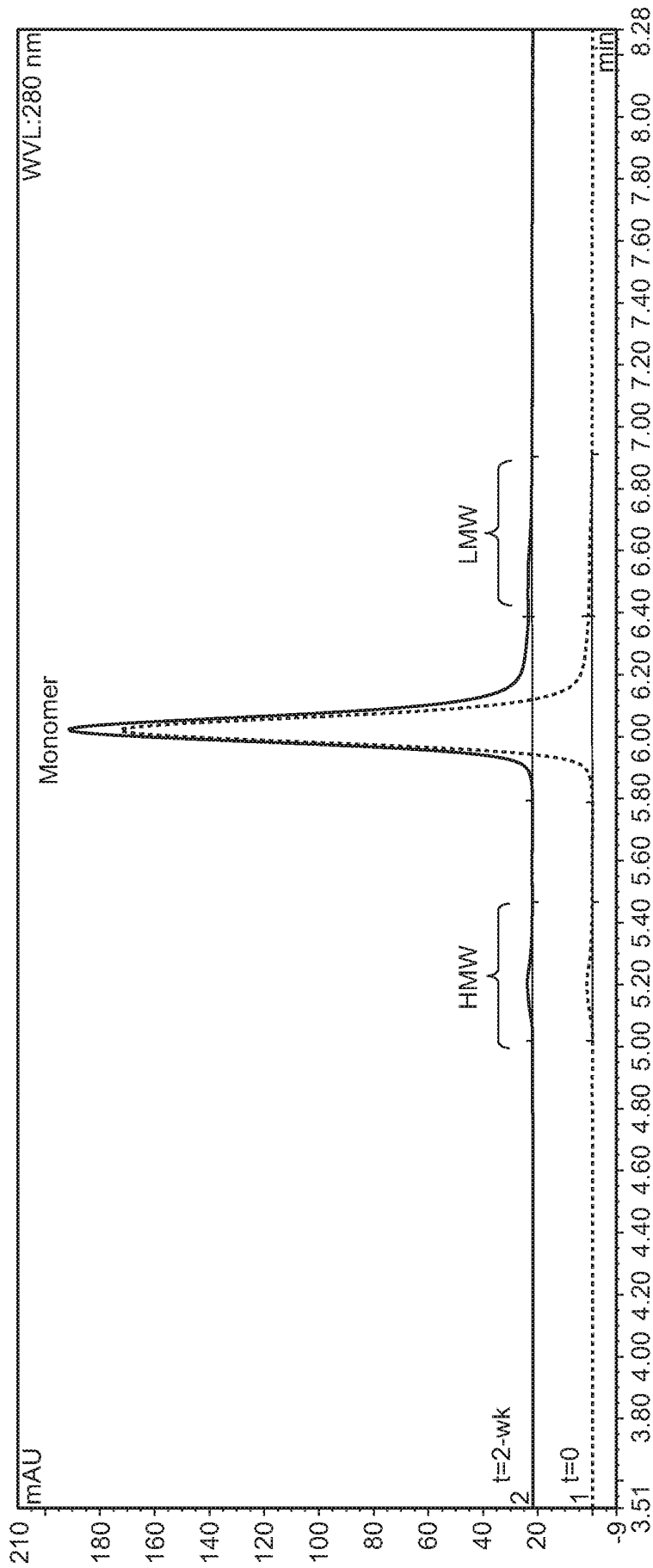


FIG. 21A

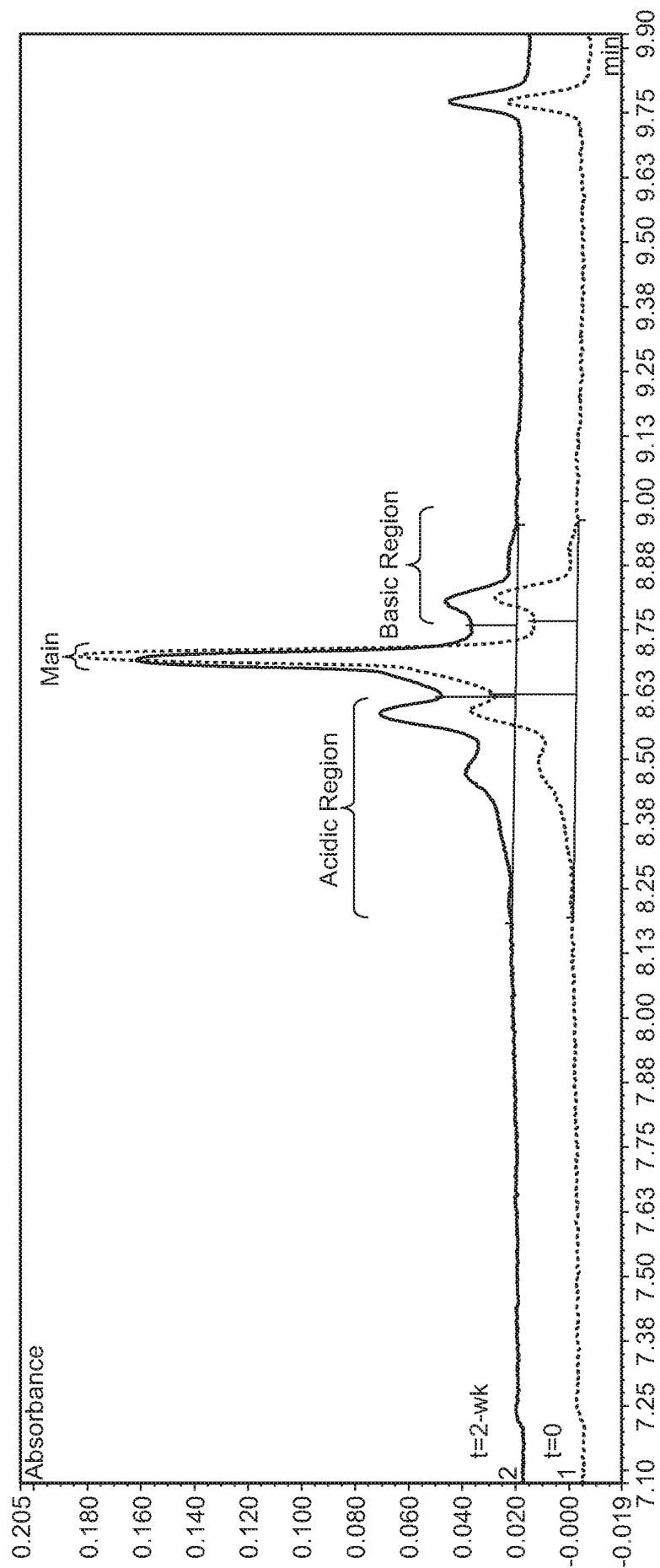
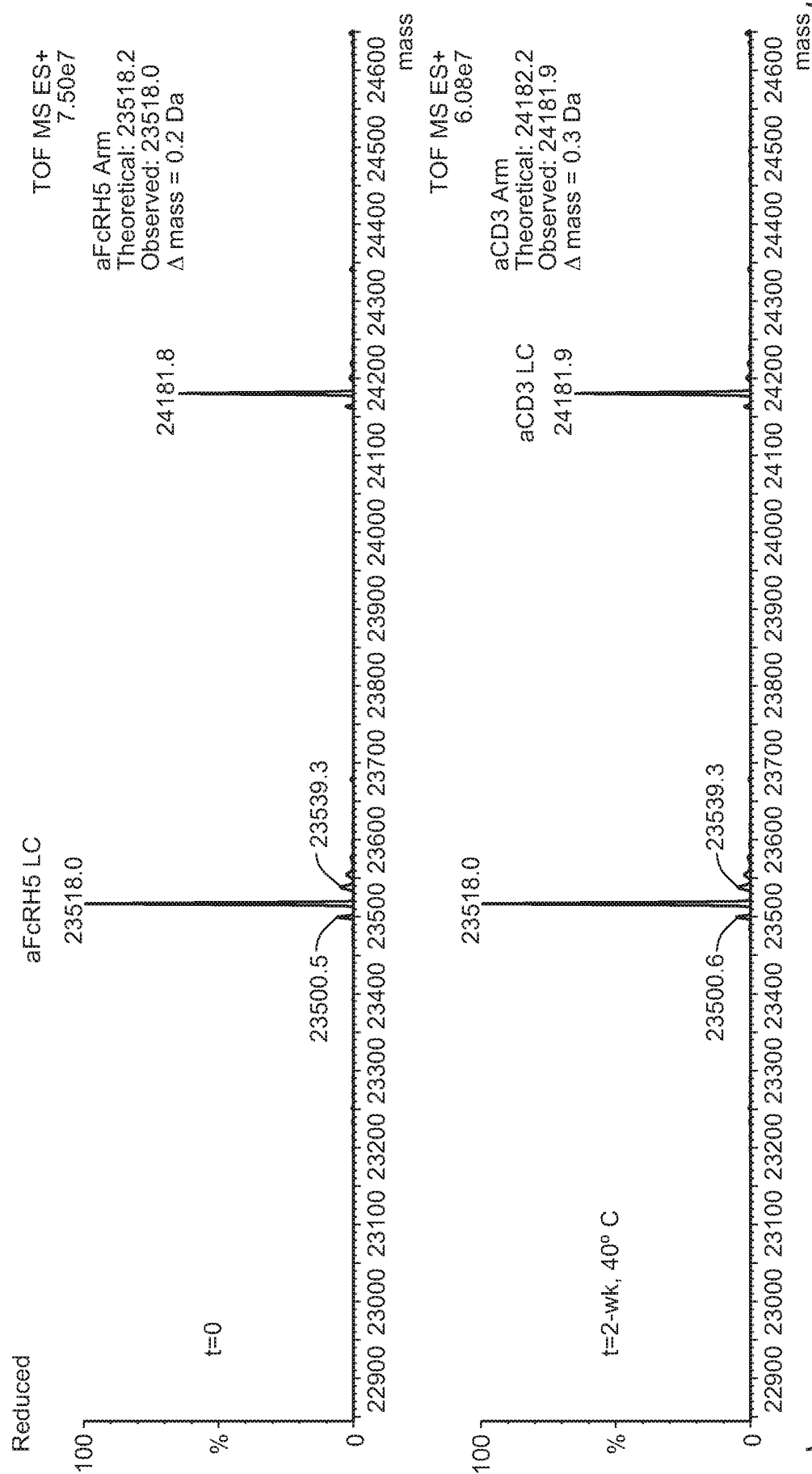


FIG. 21B



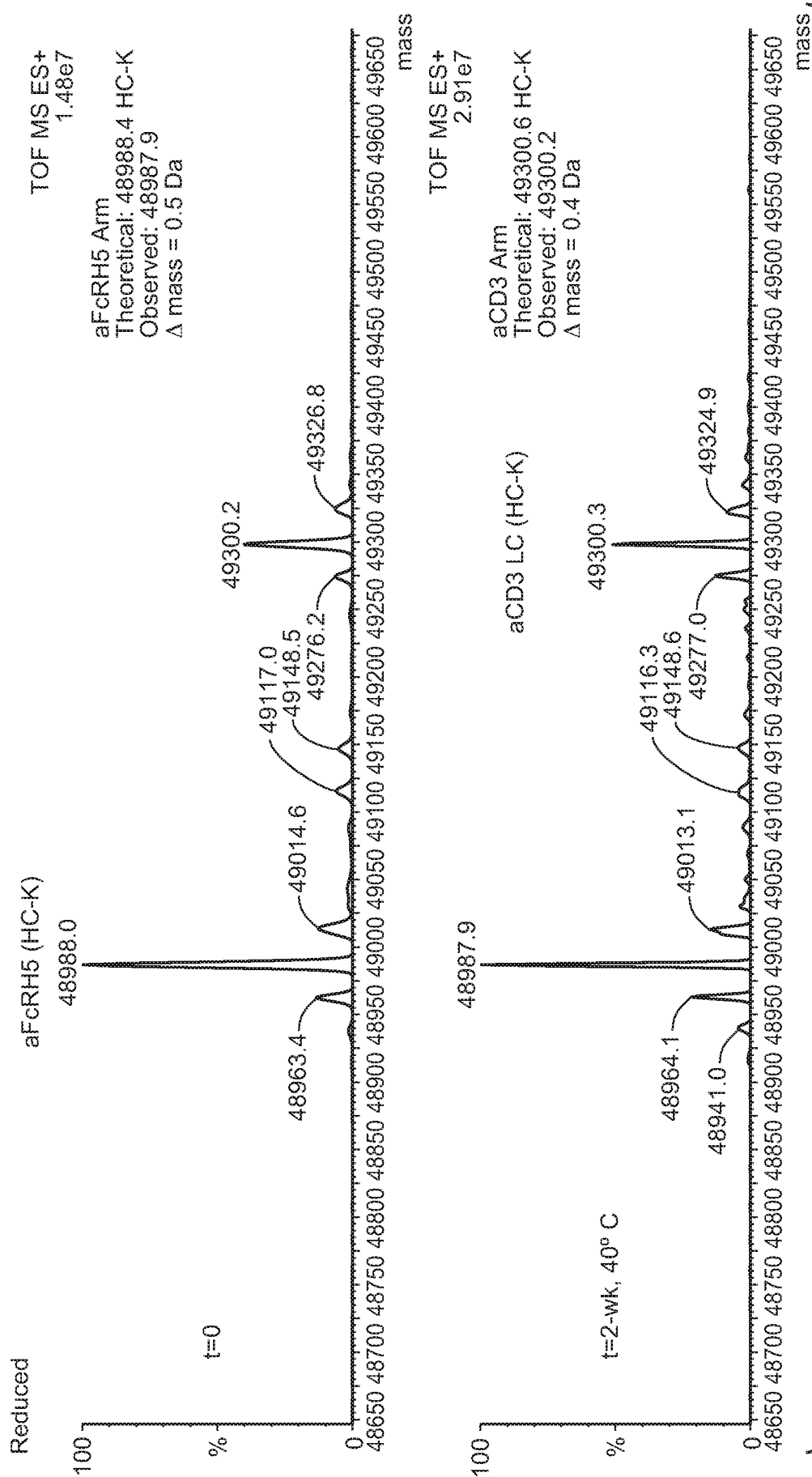


FIG. 22B

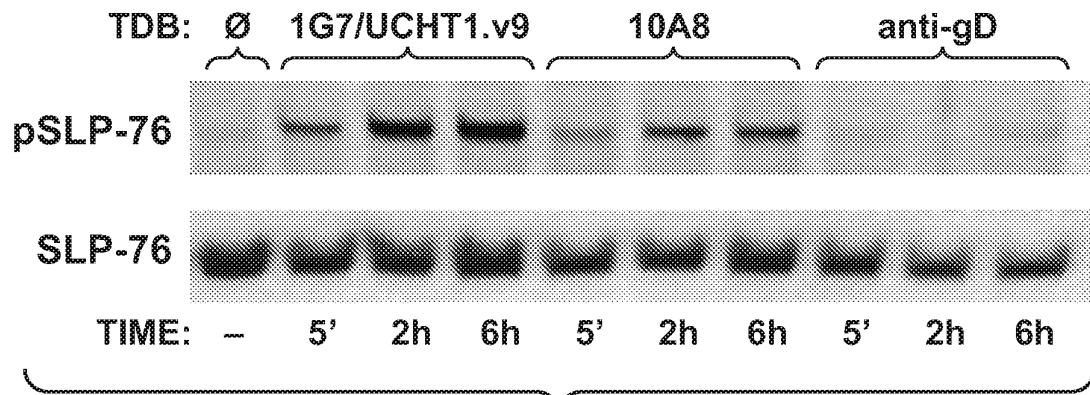
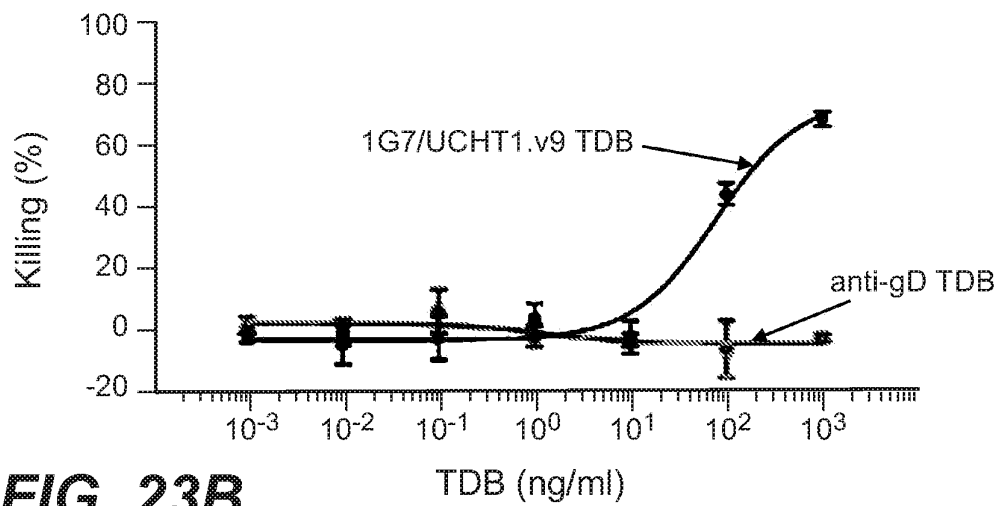
**FIG. 23A****FIG. 23B**

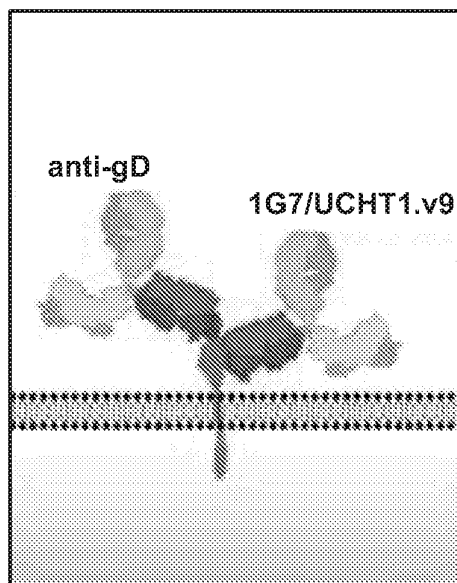
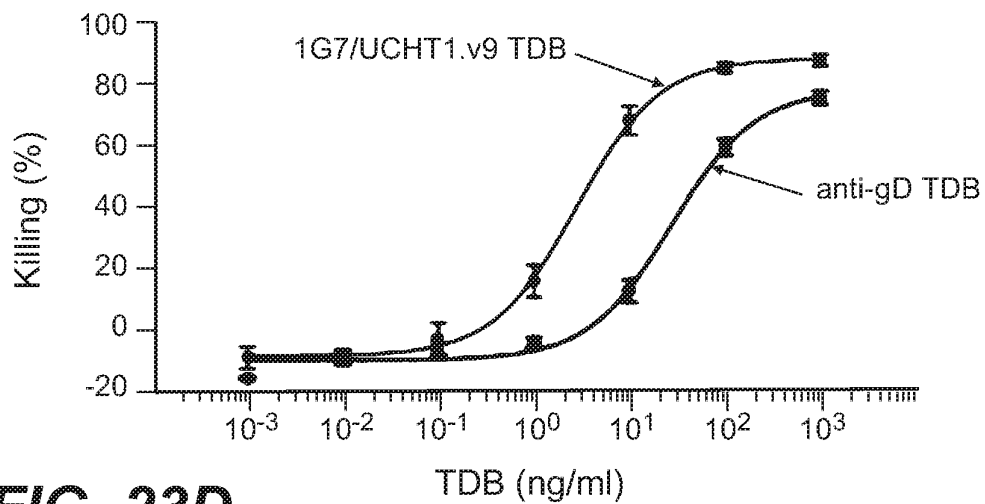
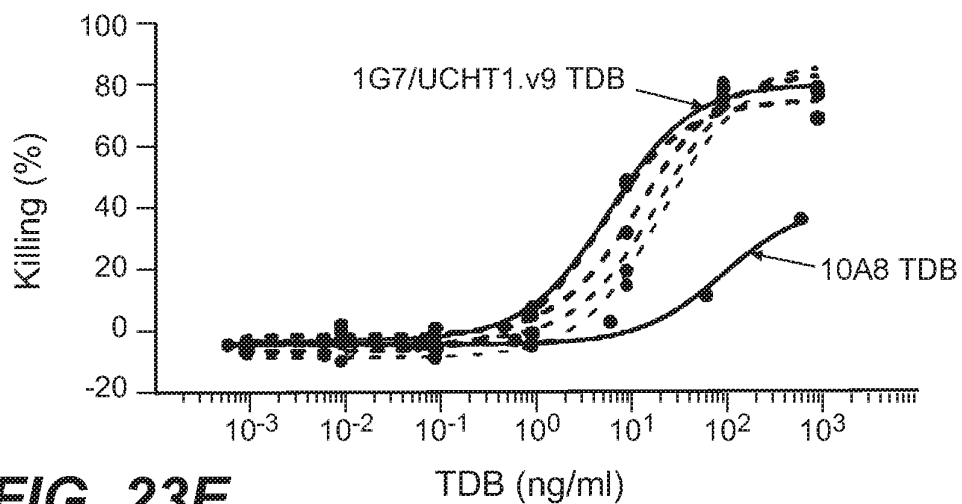
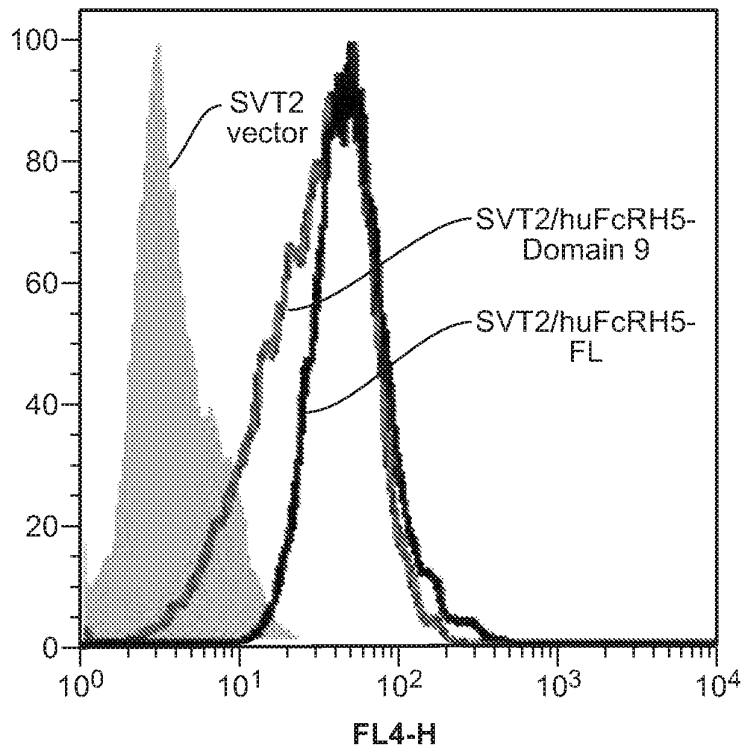
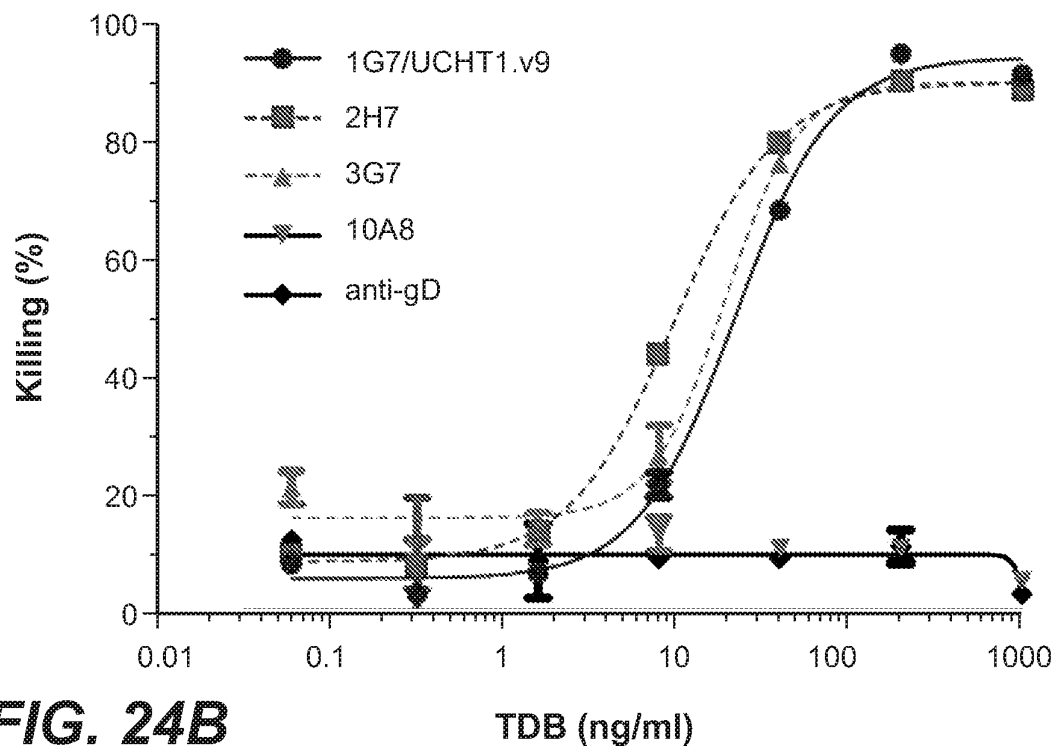
FIG. 23C**FIG. 23D****FIG. 23E**

FIG. 24A**FIG. 24B**

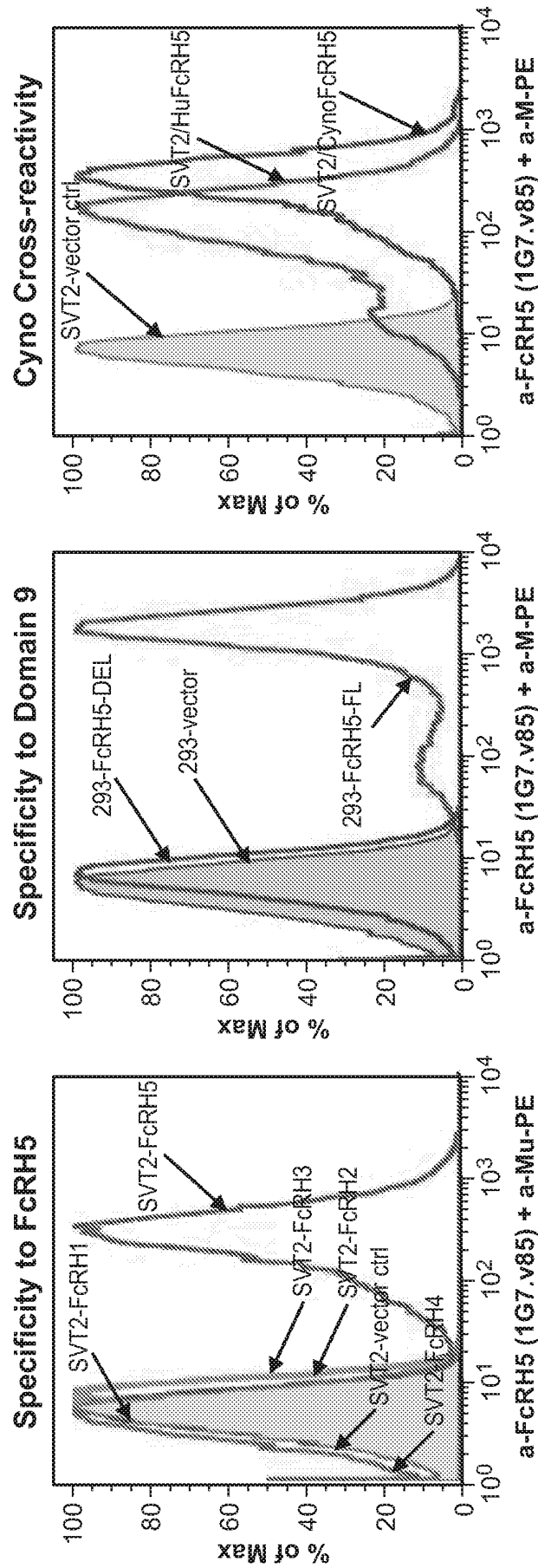
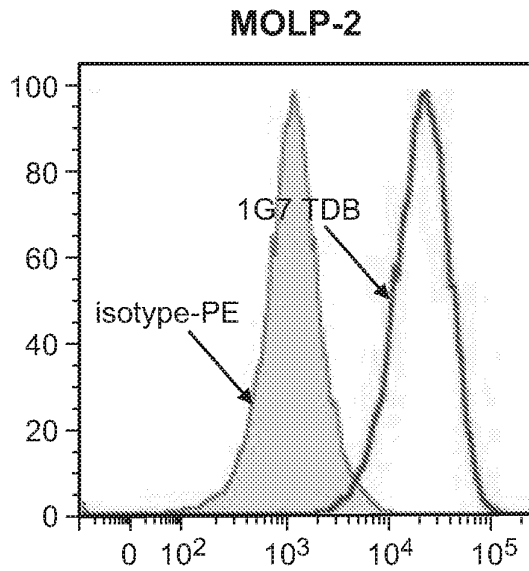
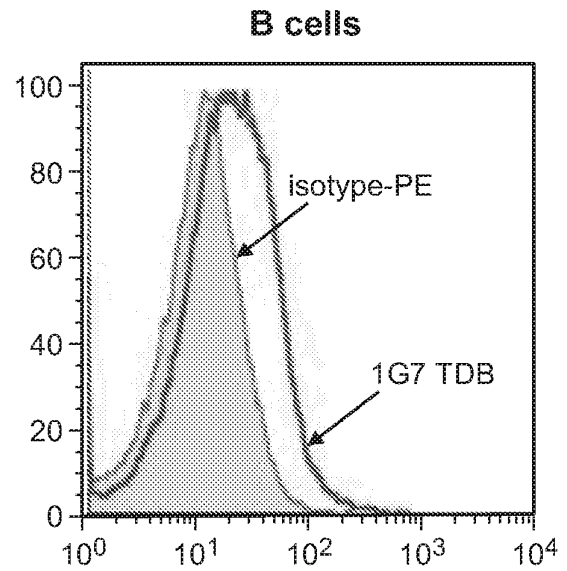
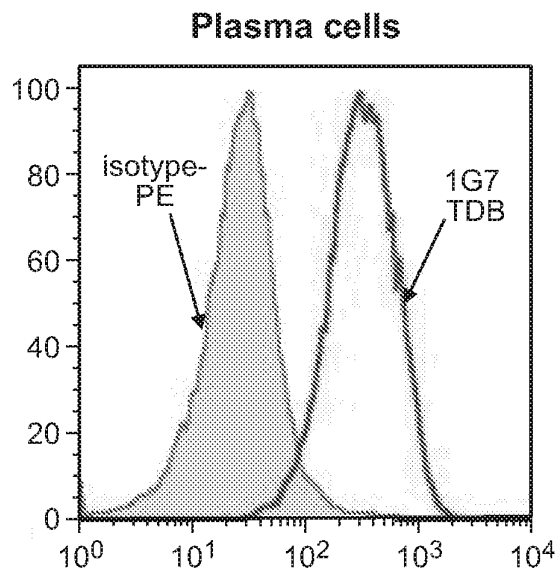
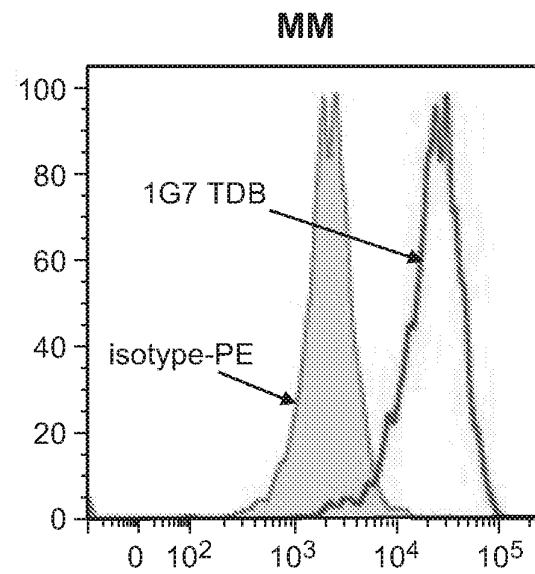


FIG. 25A

FIG. 25B

FIG. 25C

**FIG. 26A****FIG. 26B****FIG. 26C****FIG. 26D**

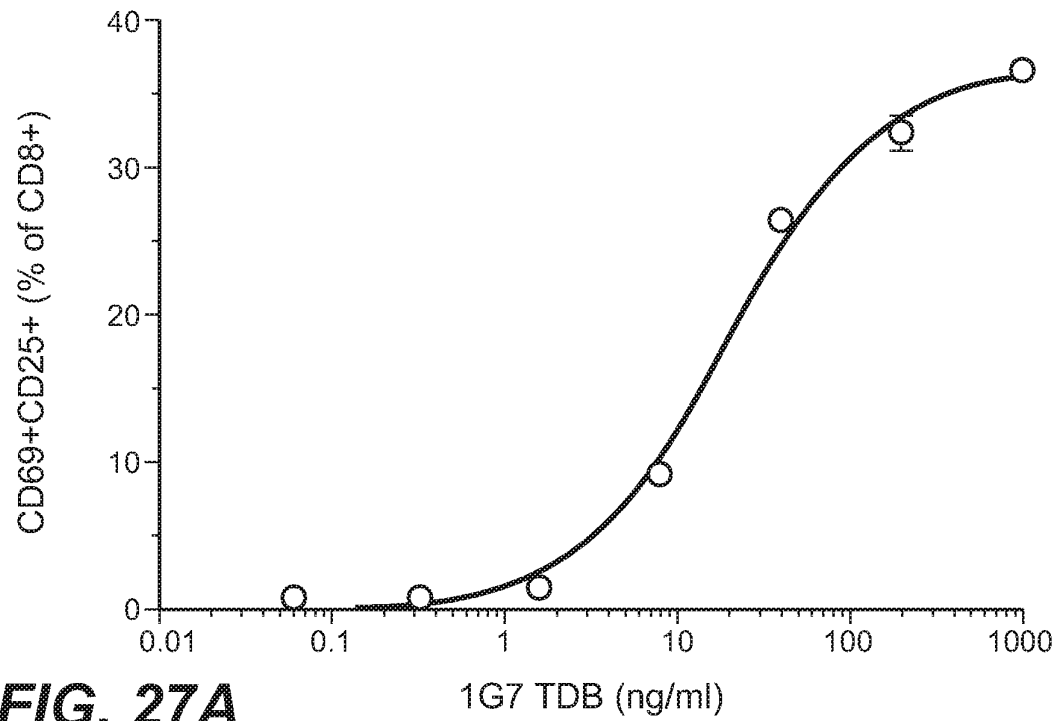
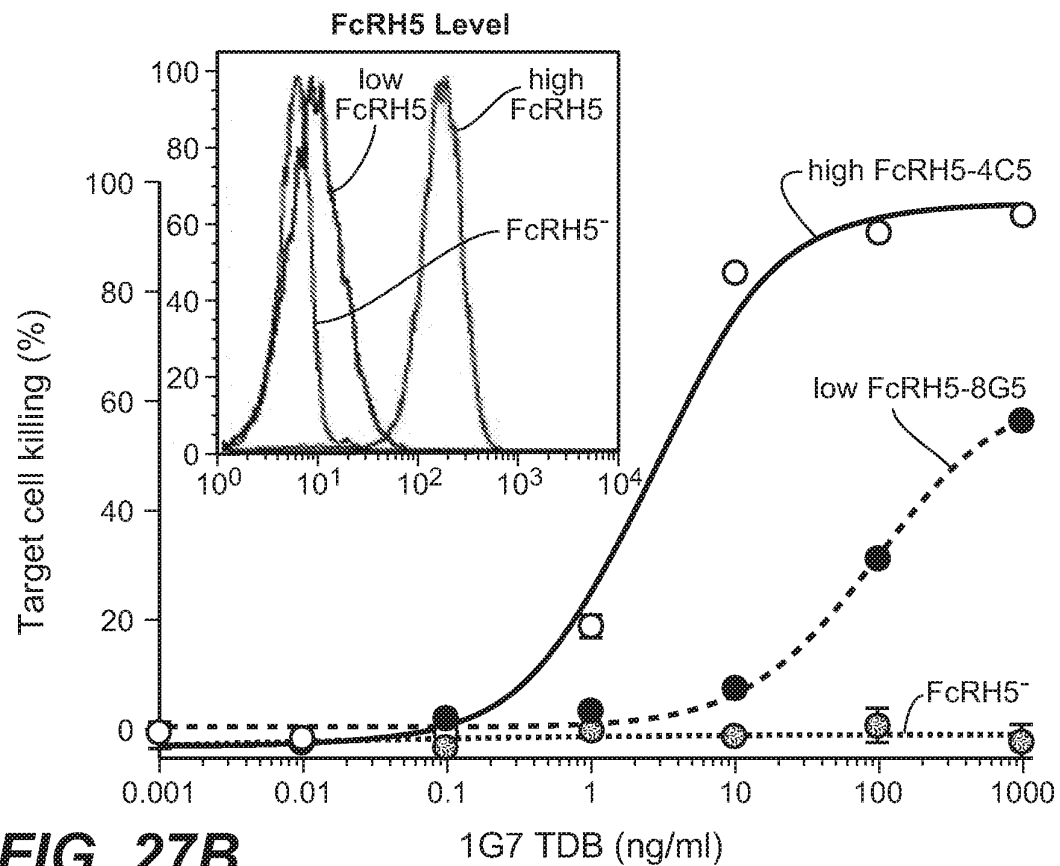
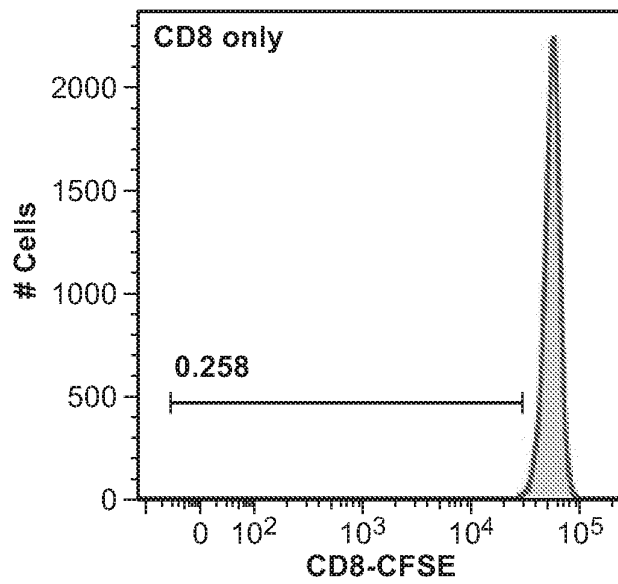
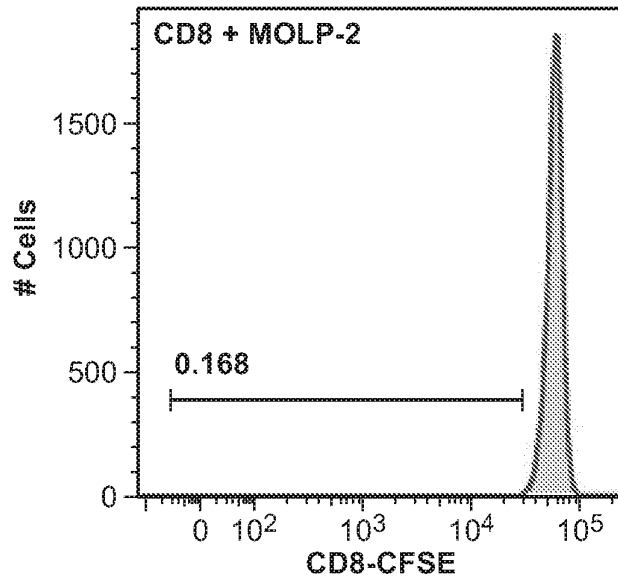
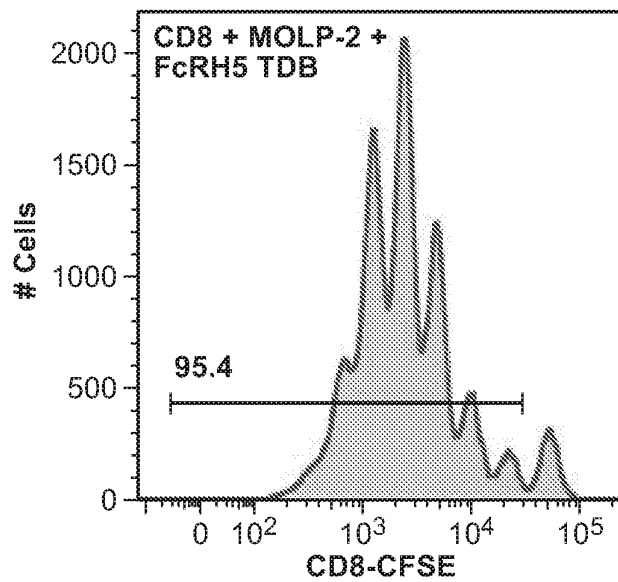
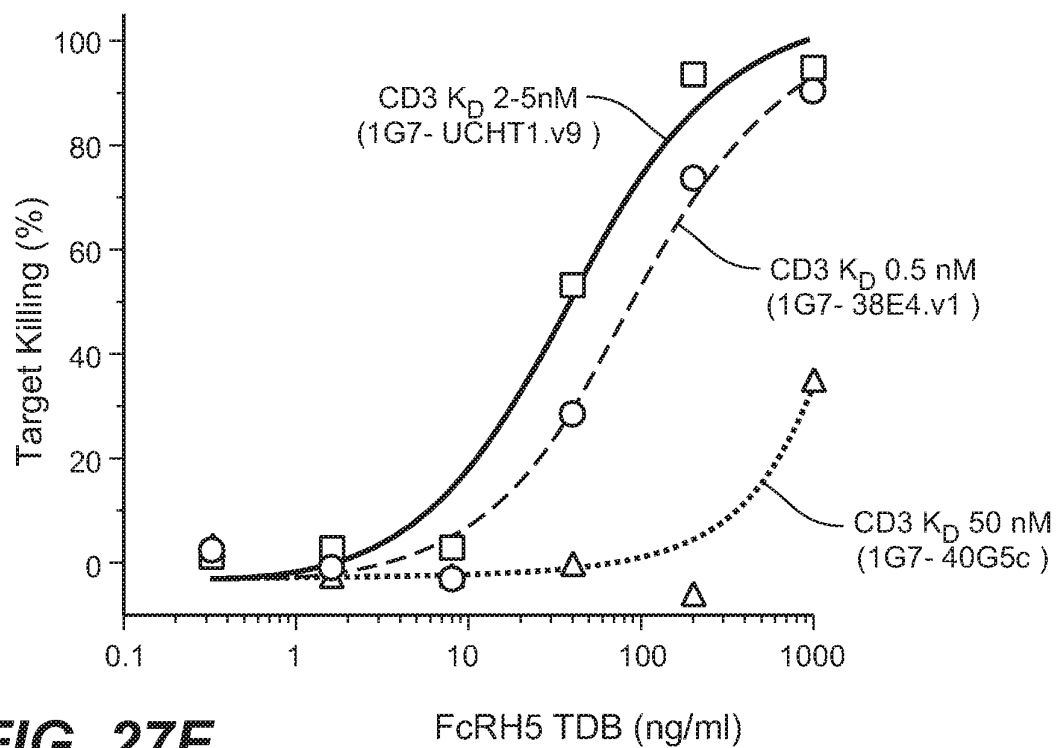
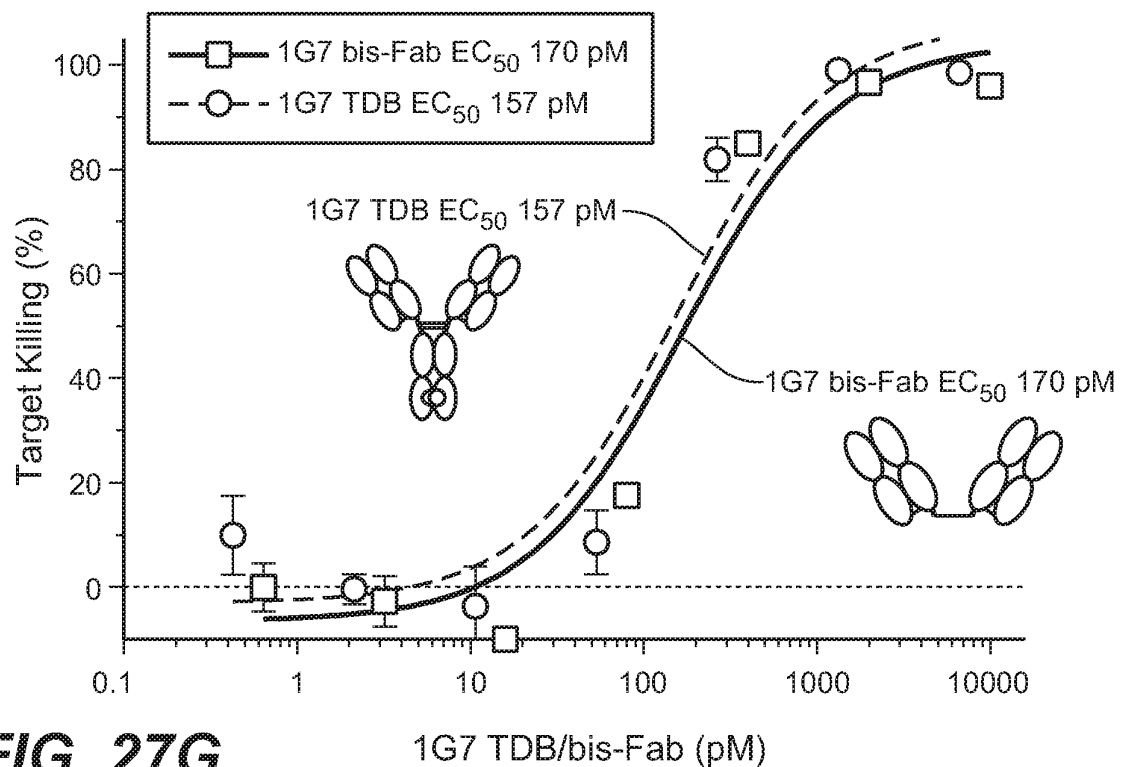
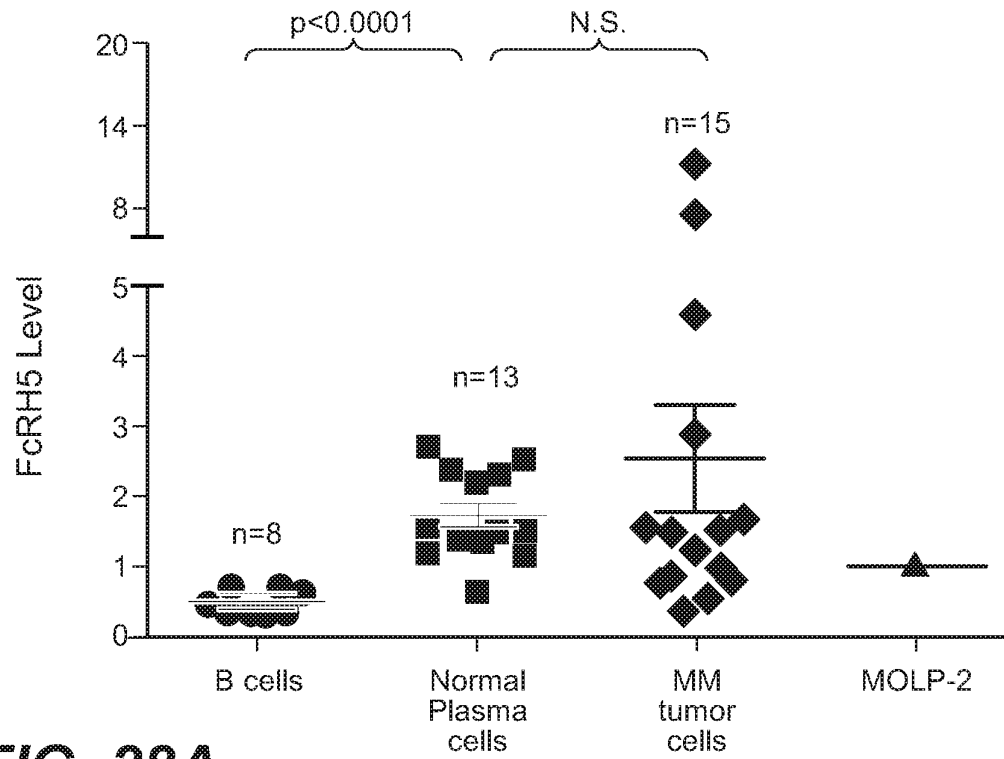
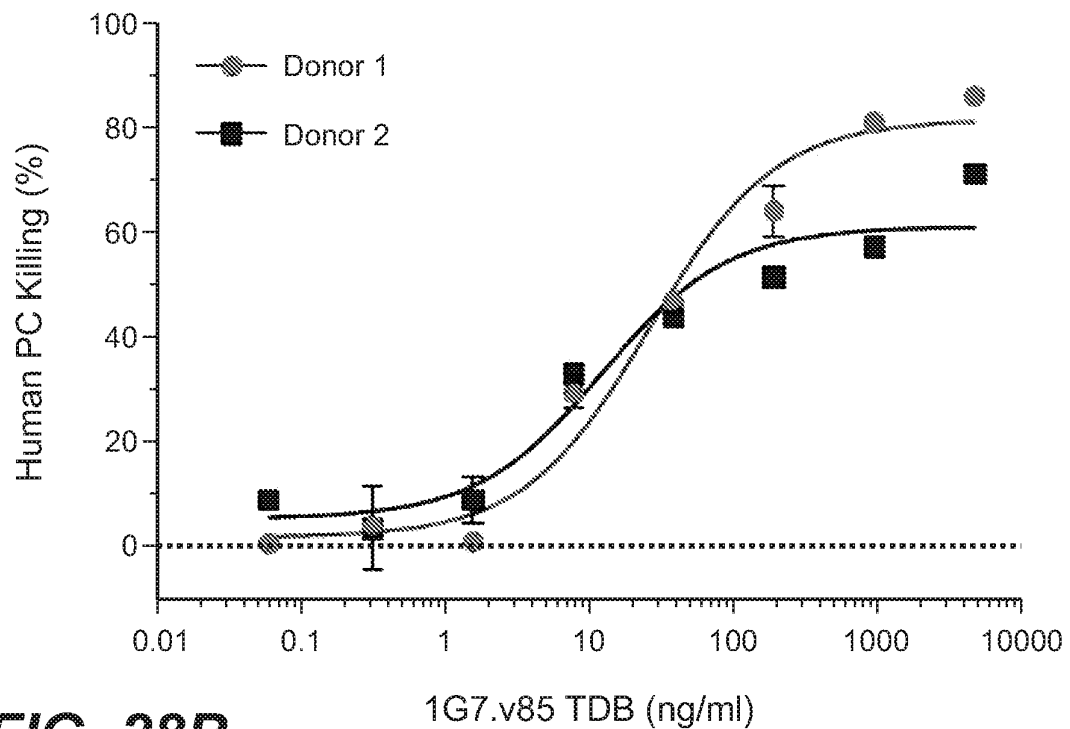
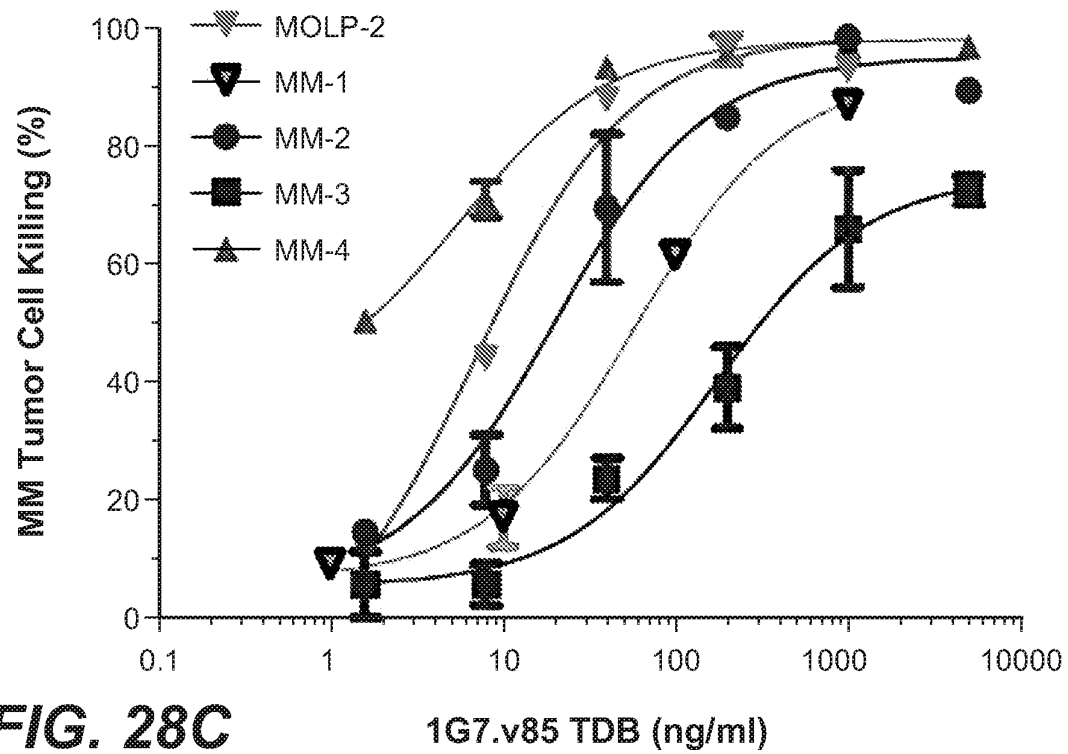
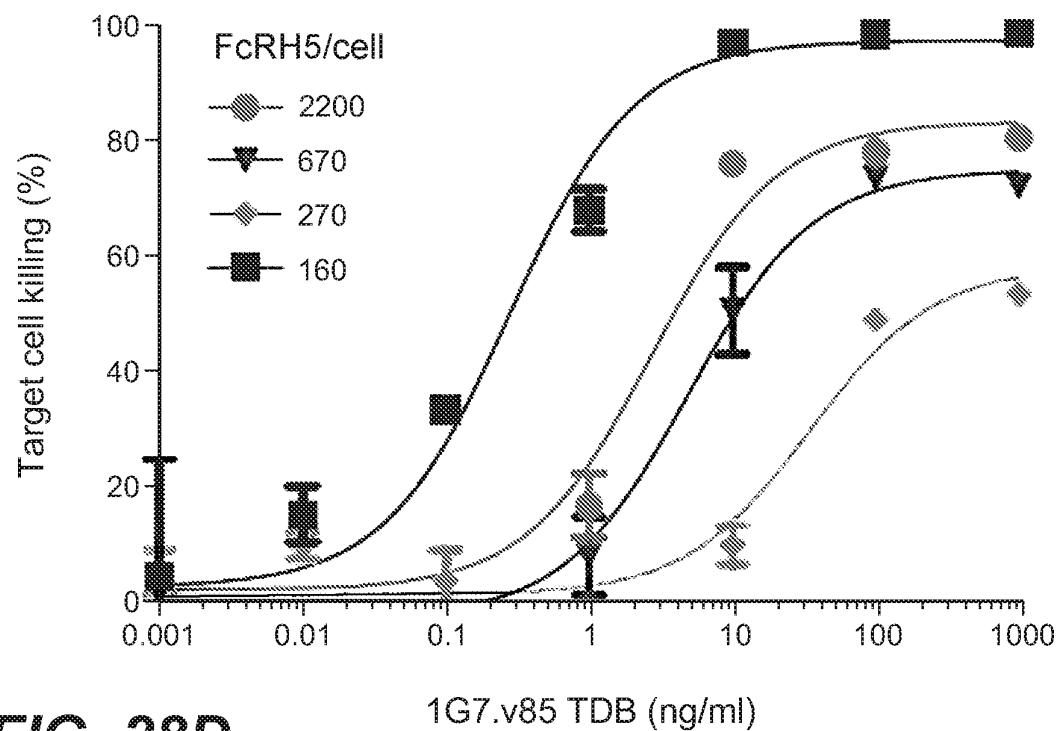
**FIG. 27A****FIG. 27B**

FIG. 27C**FIG. 27D****FIG. 27E**

**FIG. 27F****FIG. 27G**

**FIG. 28A****FIG. 28B**

**FIG. 28C****FIG. 28D**

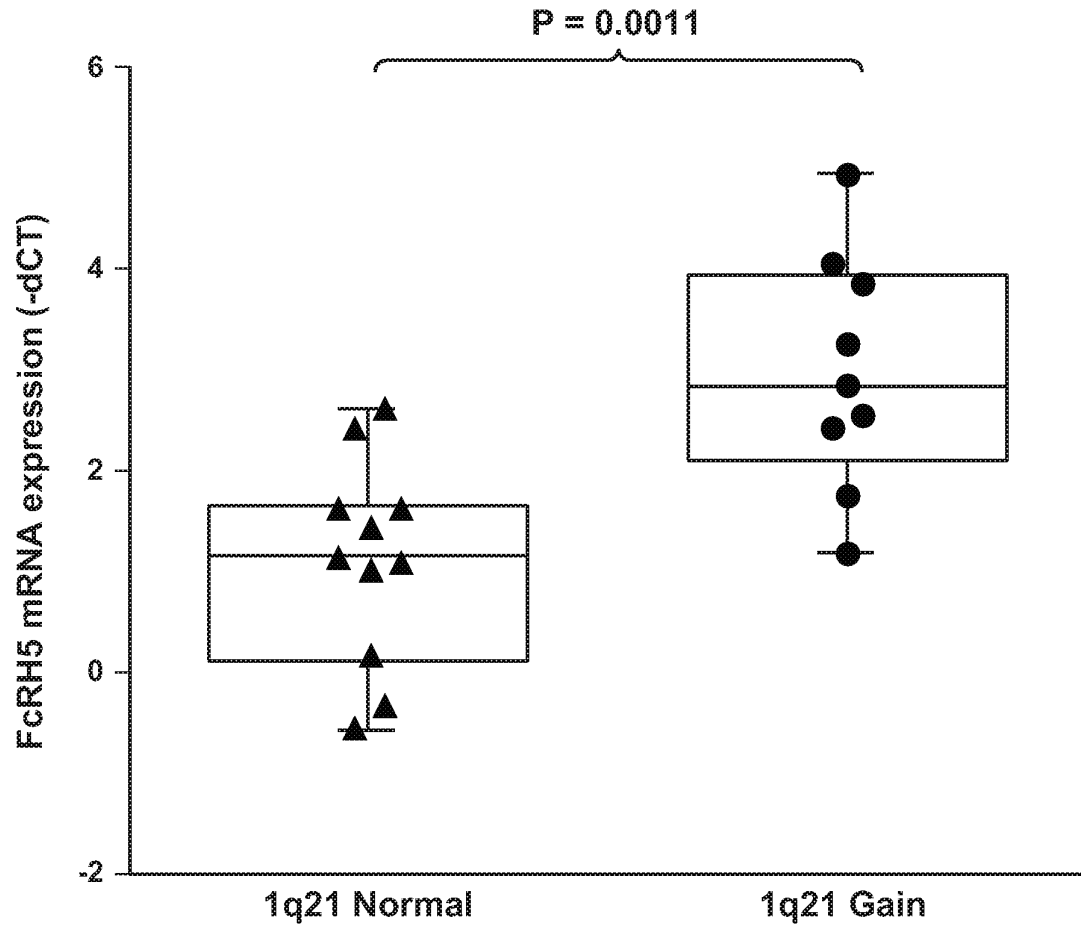
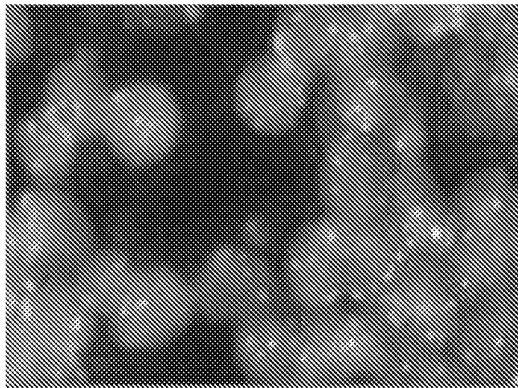
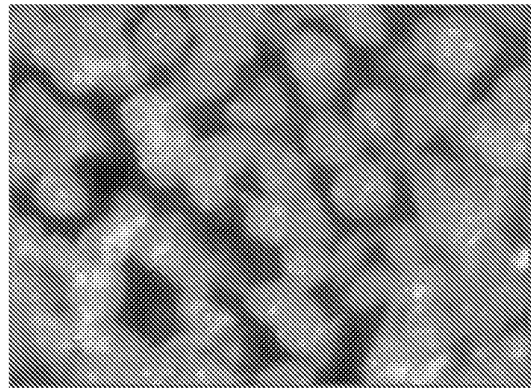
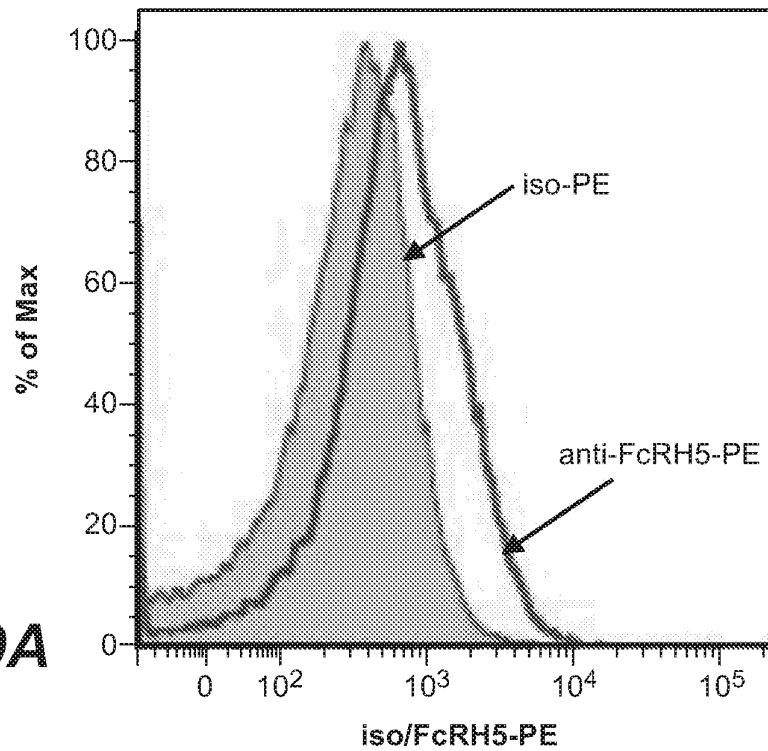
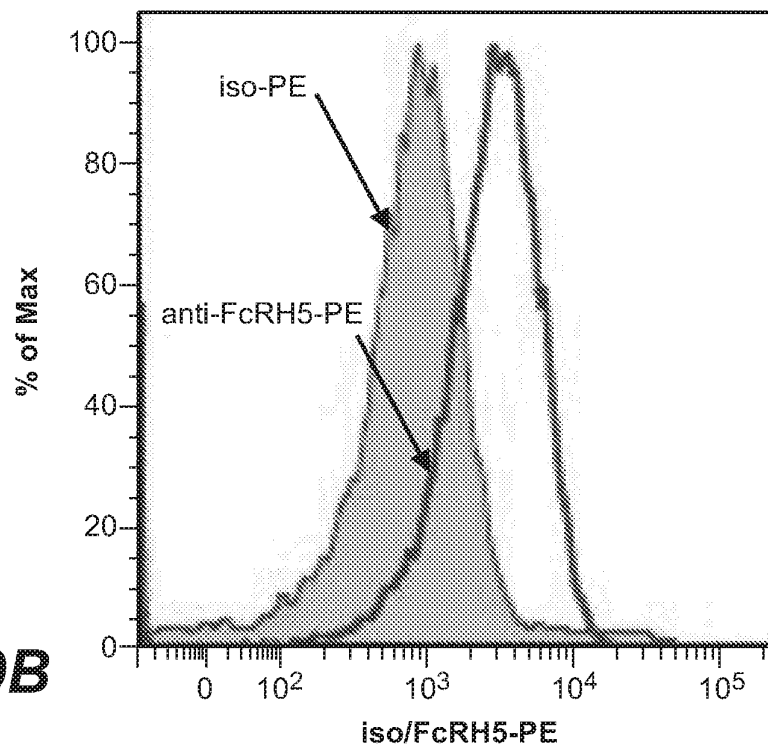


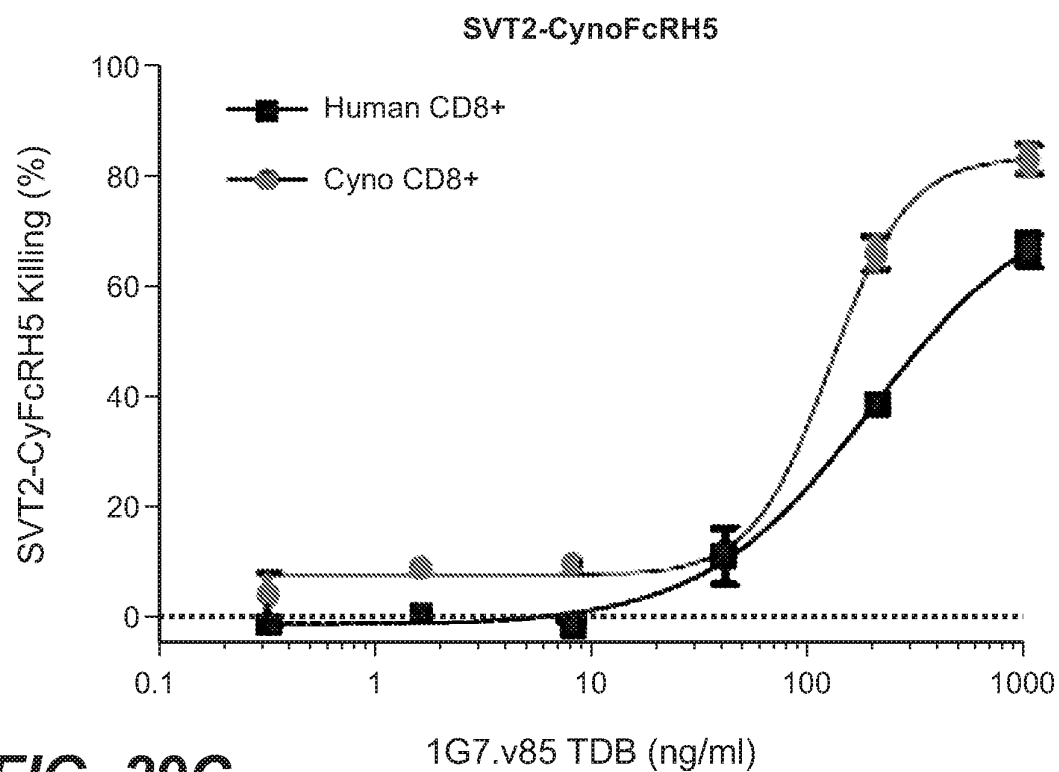
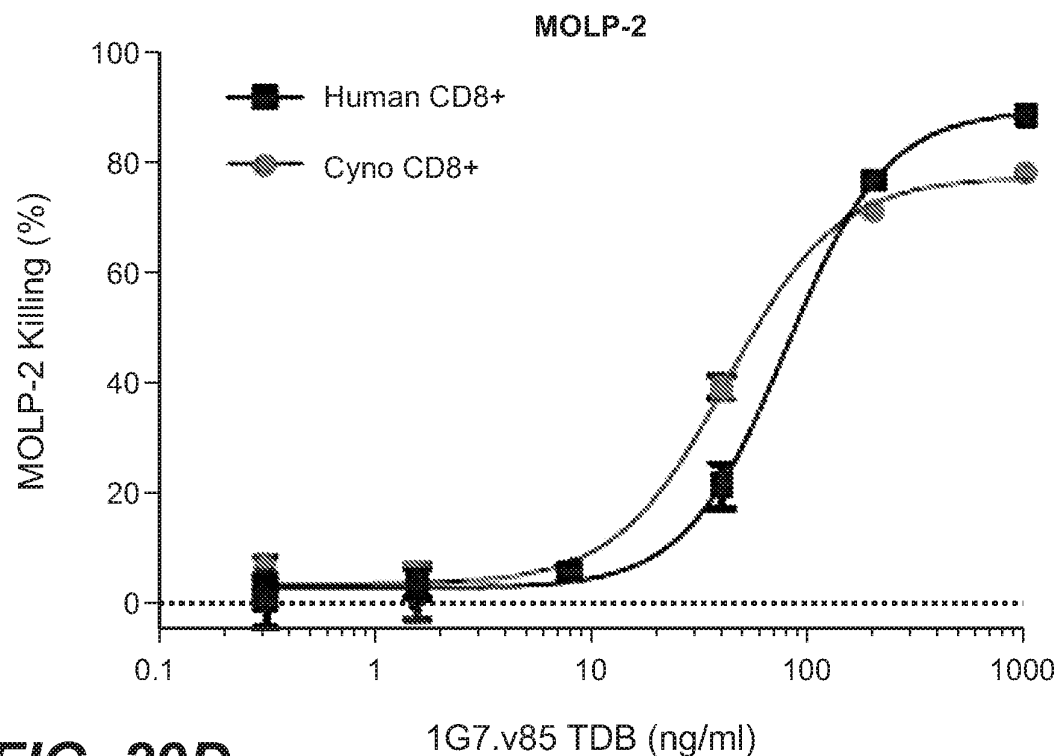
FIG. 28E

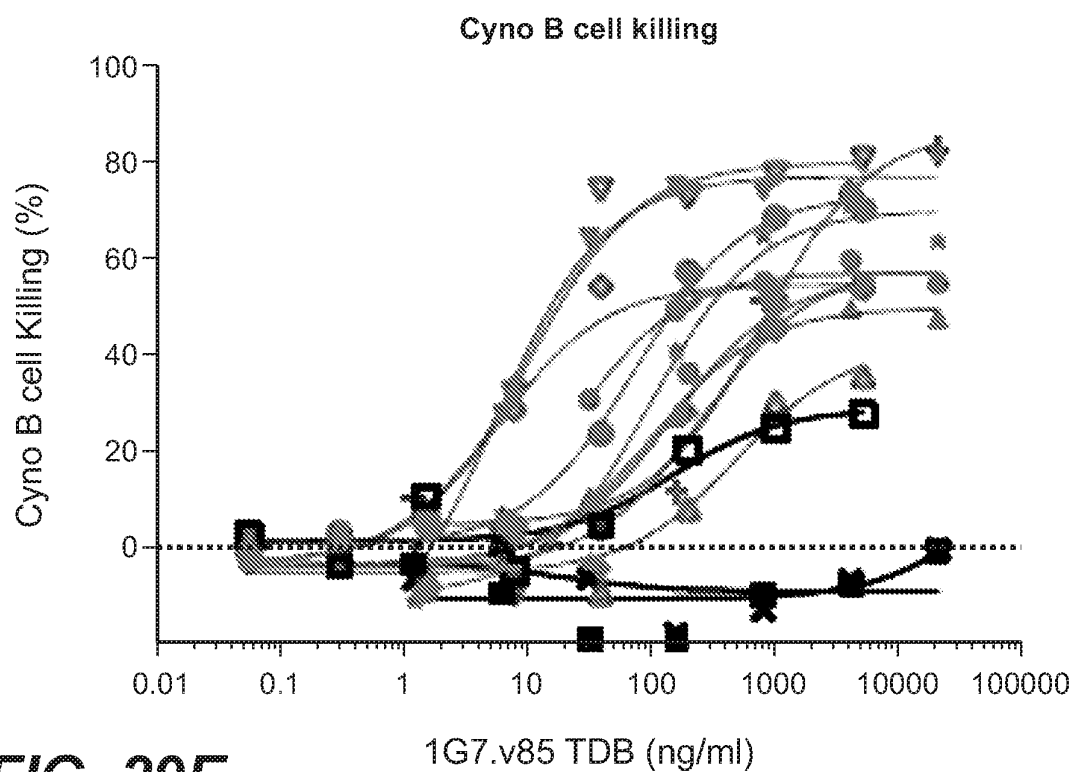
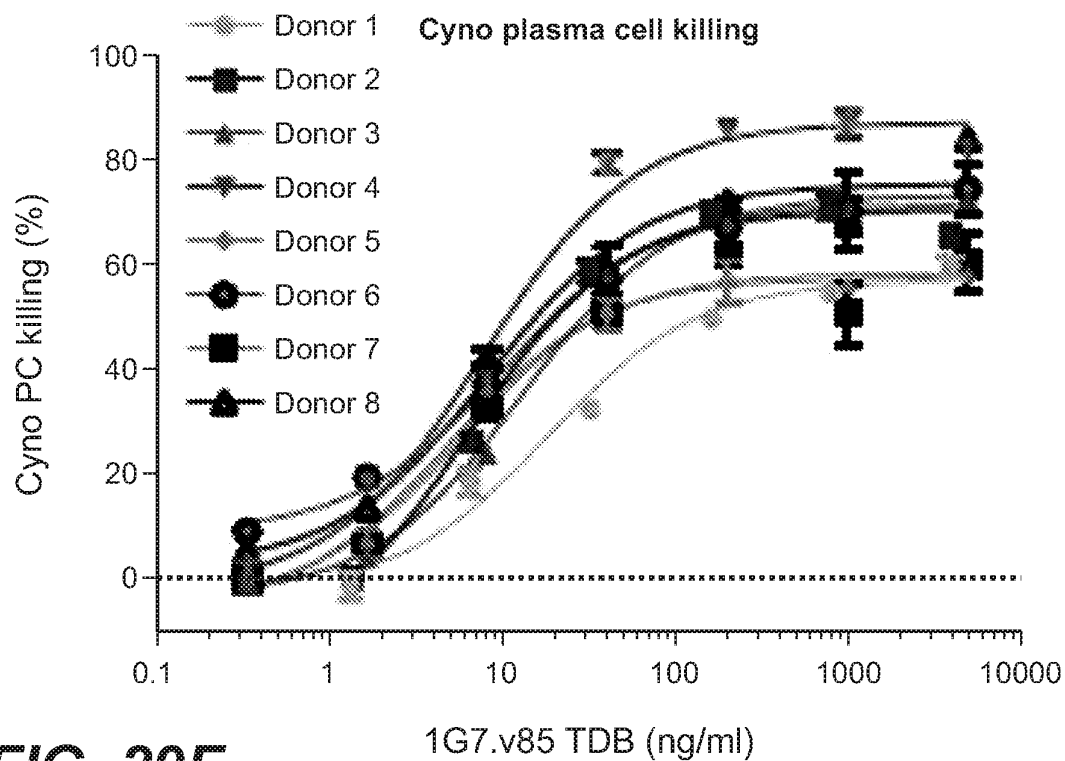
Cyno CD20+ B cells

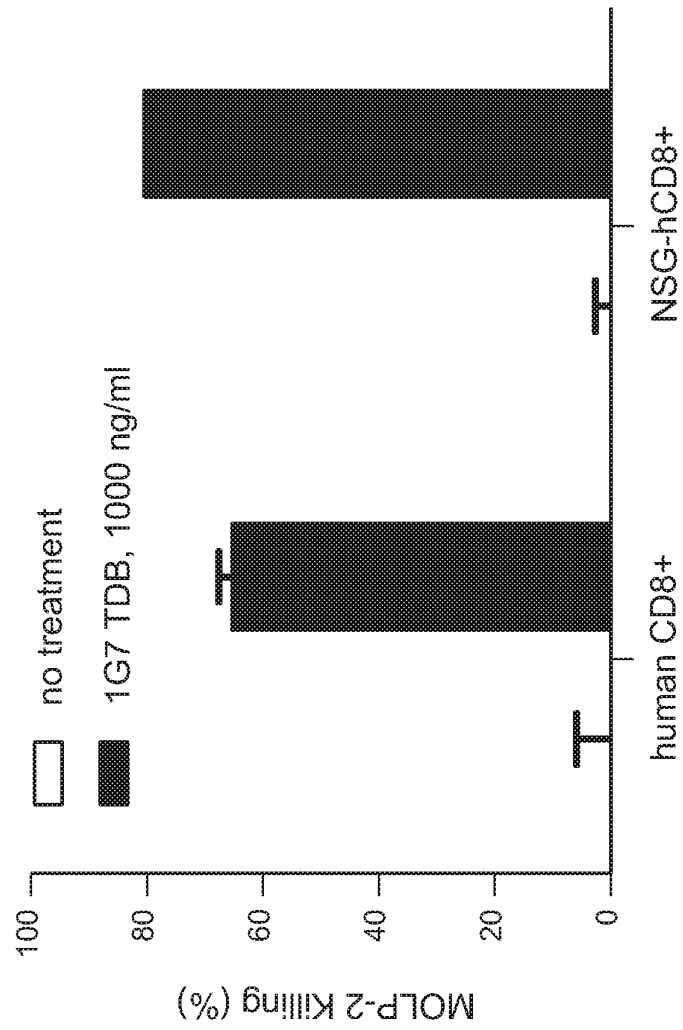
**FIG. 29A**

Cyno Plasma cells

**FIG. 29B**

**FIG. 29C****FIG. 29D**

**FIG. 29E****FIG. 29F**

**FIG. 30A**

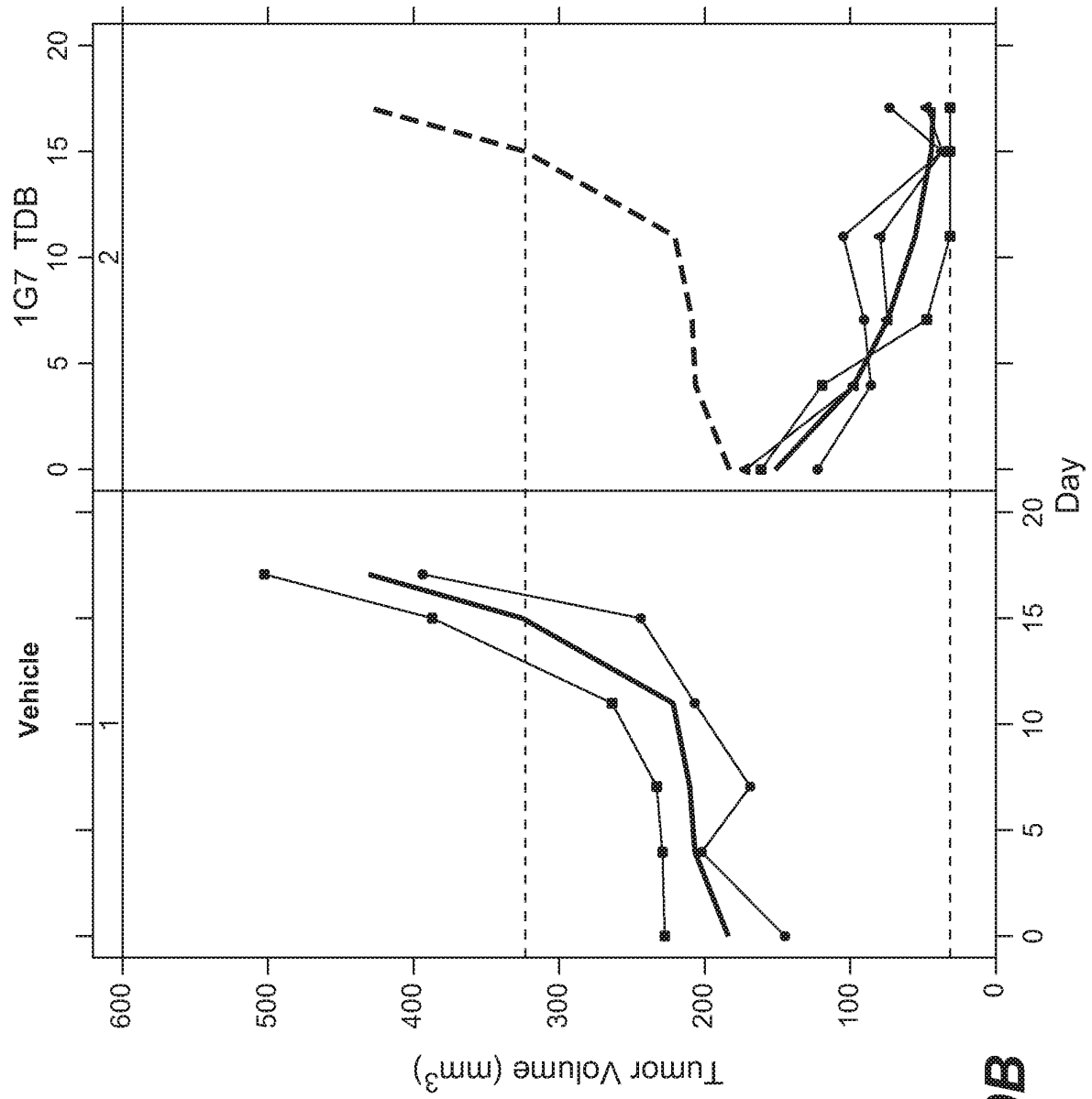


FIG. 30B

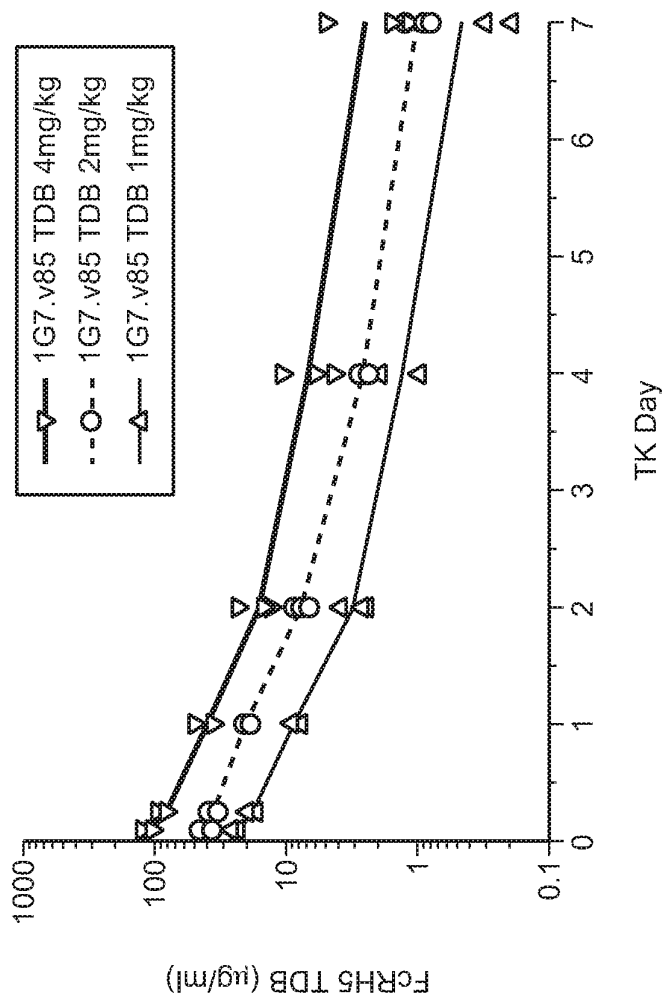
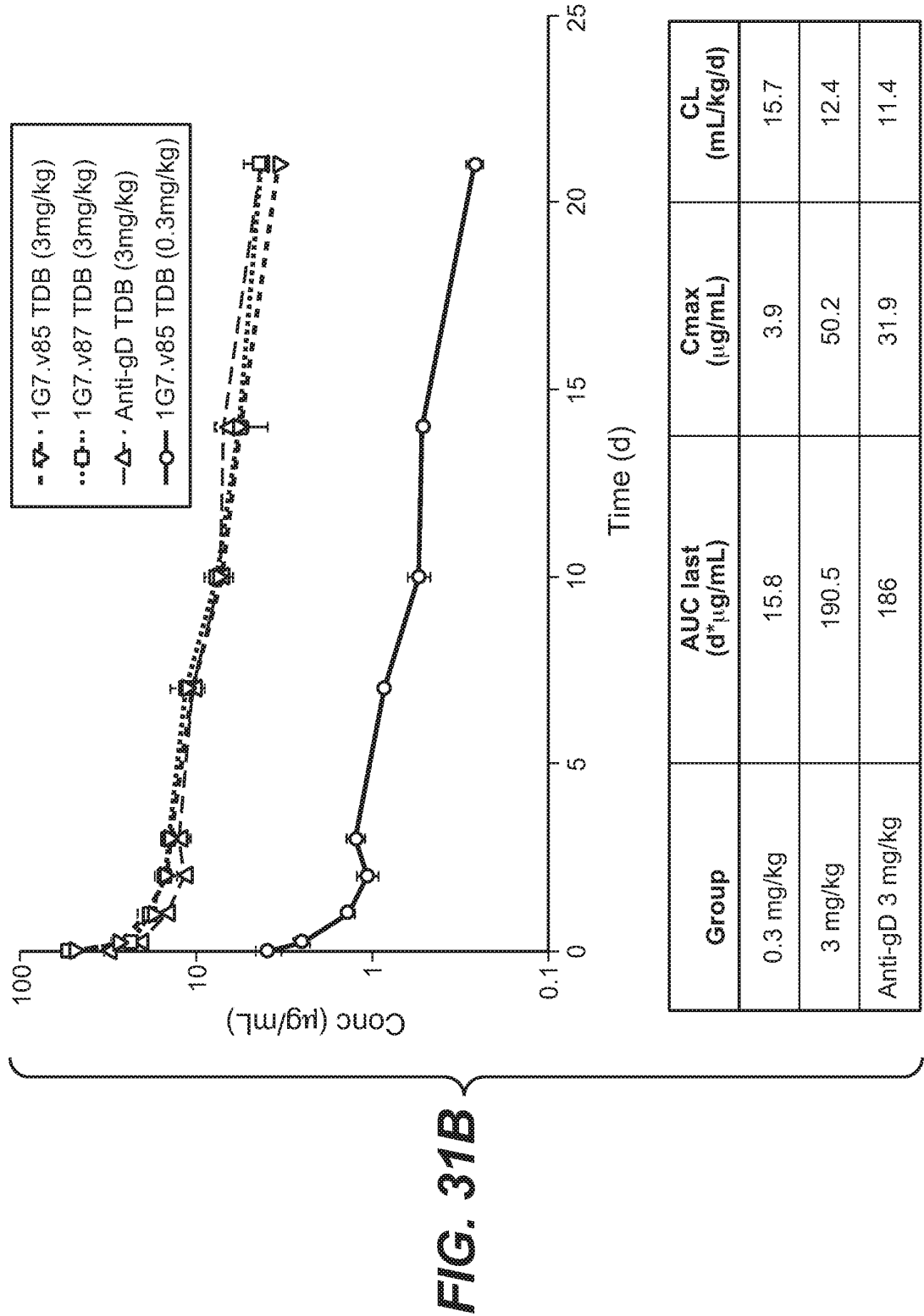
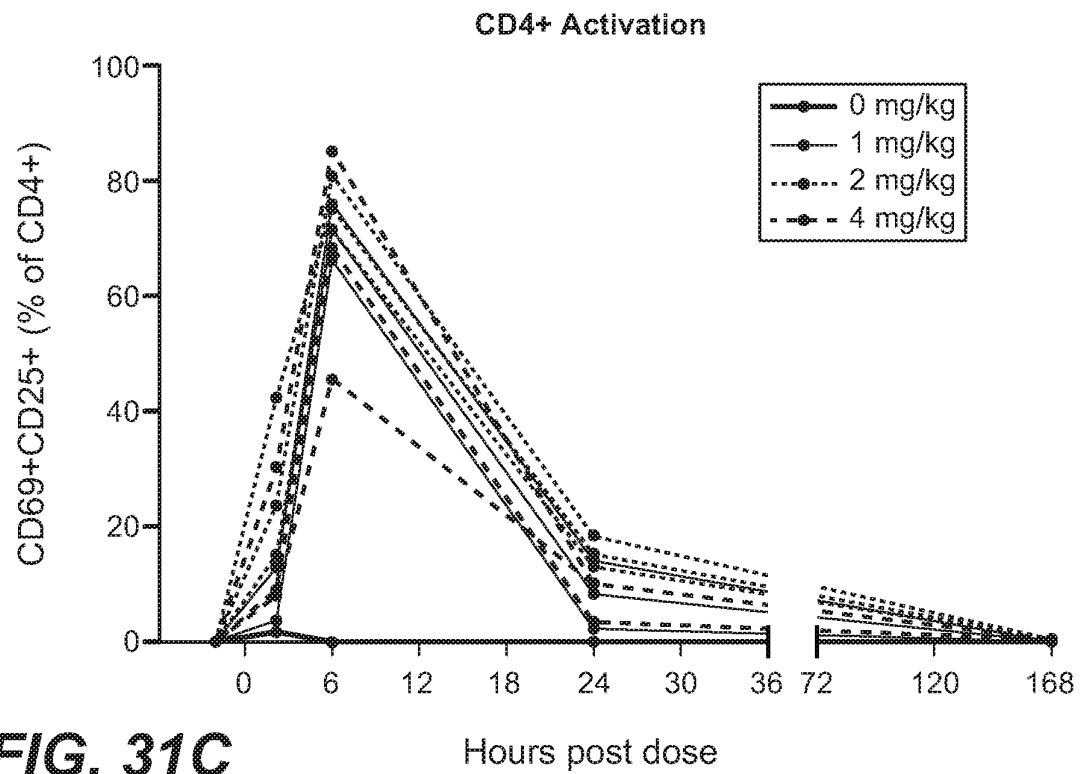
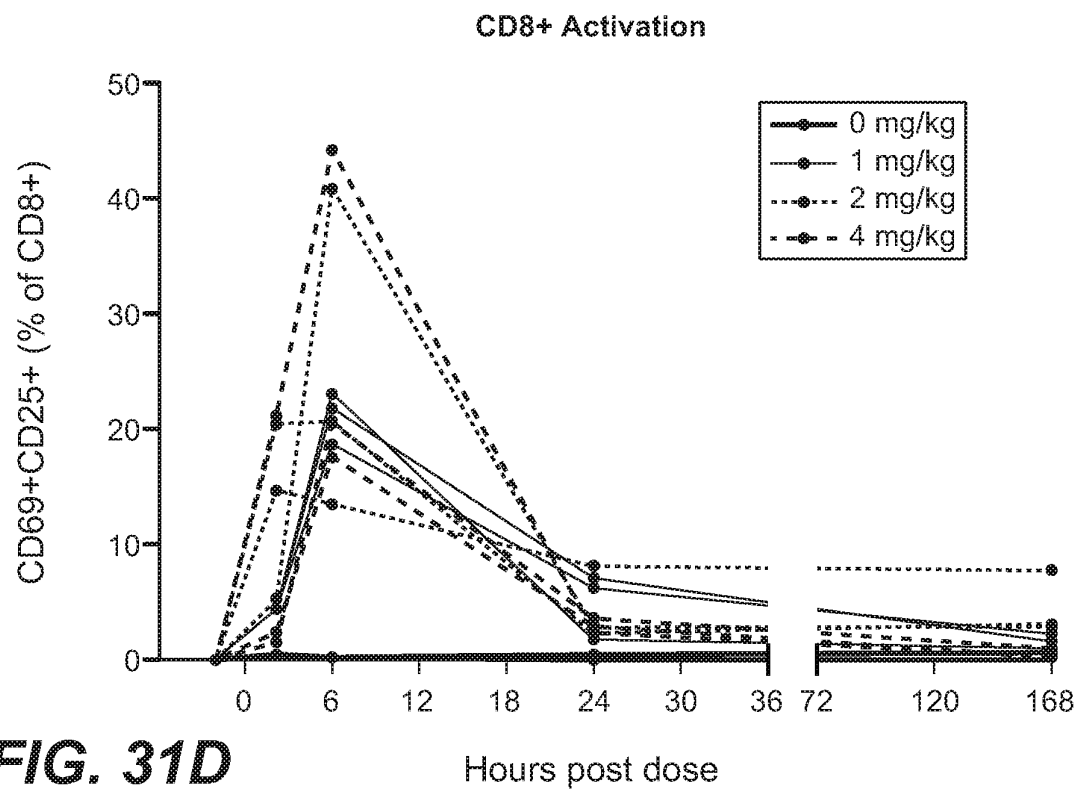
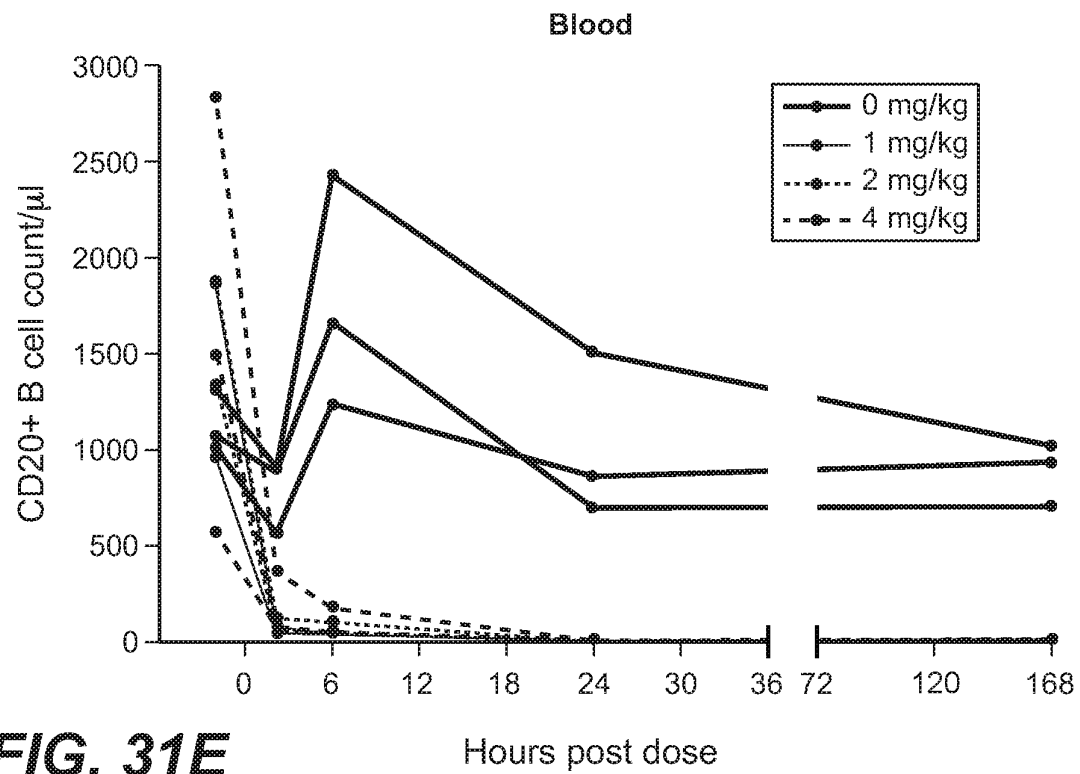
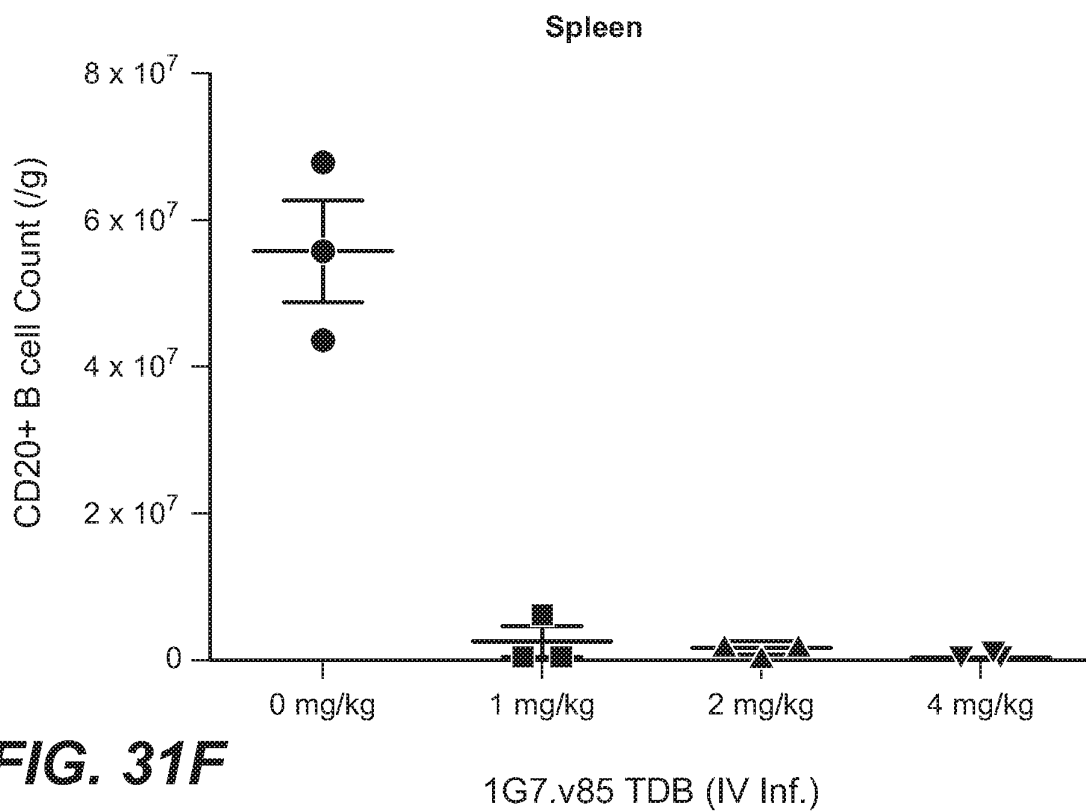


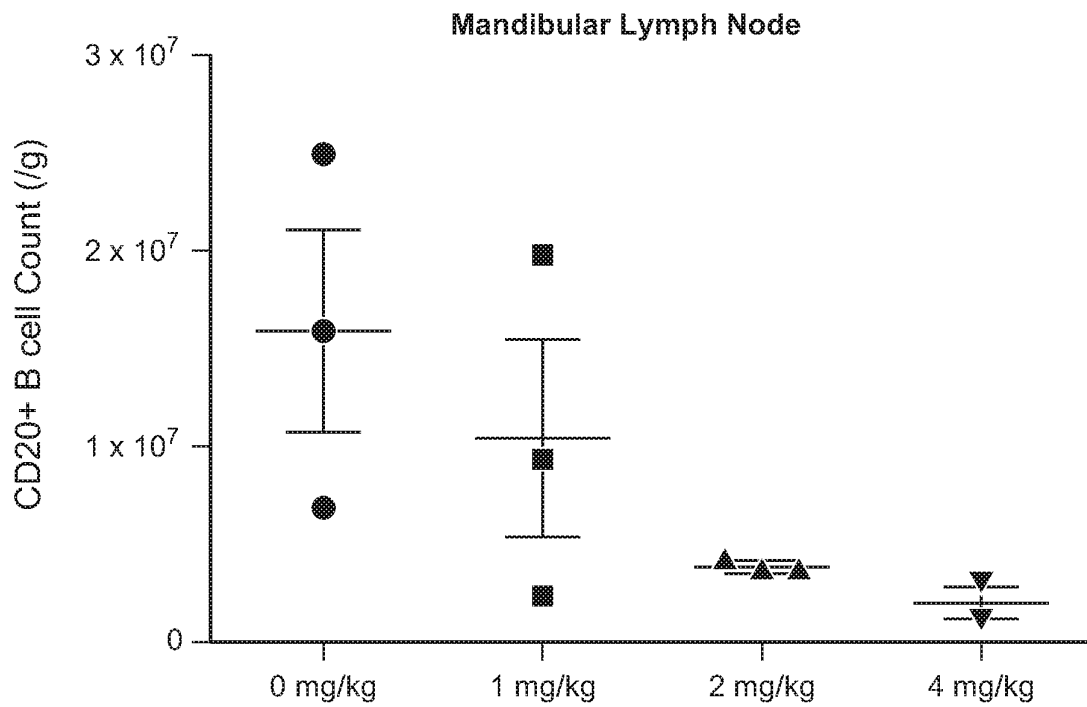
FIG. 31A

Dose (mg/kg)	Cmax (µg/mL)	AUC _{inf} (day*µg/mL)	AUC ₀₋₇ (day*µg/mL)	CL (mL/day/kg)
1	26.5±0.4	30.1±4	28.7±2	33.6±4
2	47.9±2	62.4±2	60.3±2	32.0±1
4	129±21	139±35	133±28	29.8±7

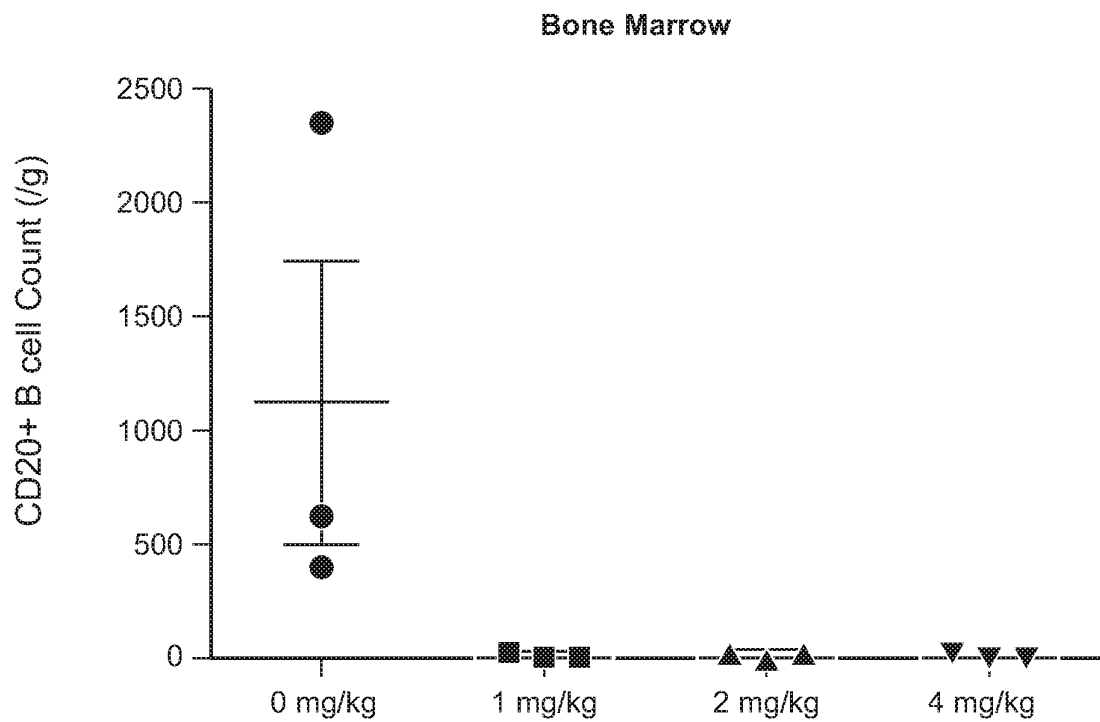


**FIG. 31C****FIG. 31D**

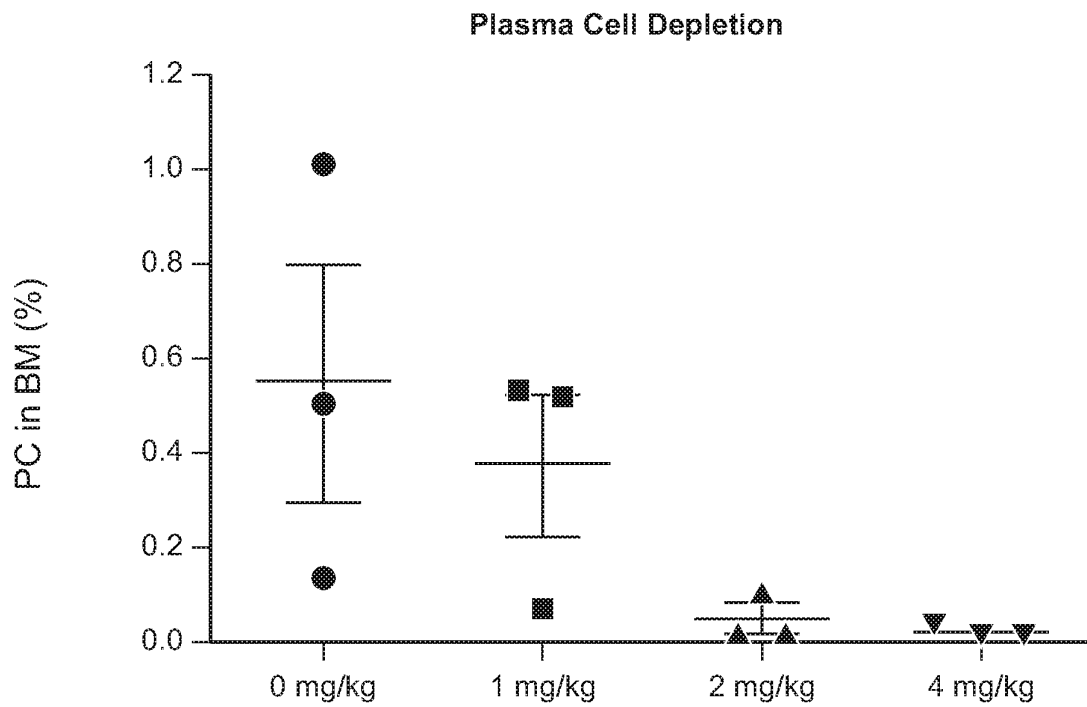
**FIG. 31E****FIG. 31F**

**FIG. 31G**

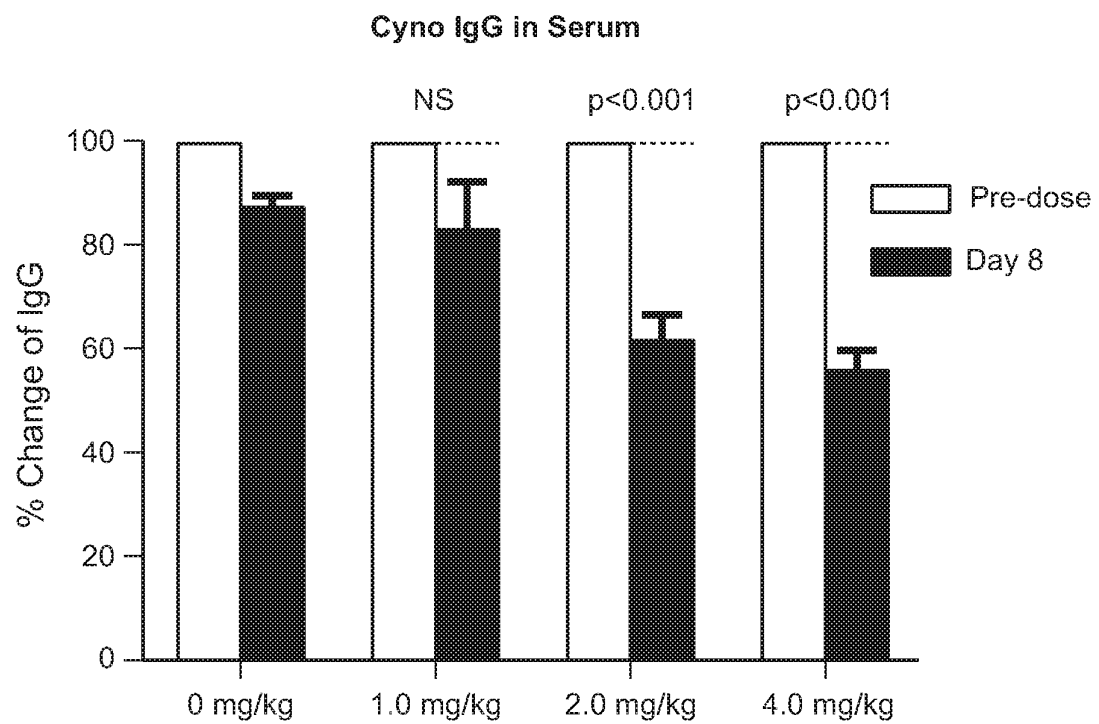
1G7.v85 TDB (IV Inf.)

**FIG. 31H**

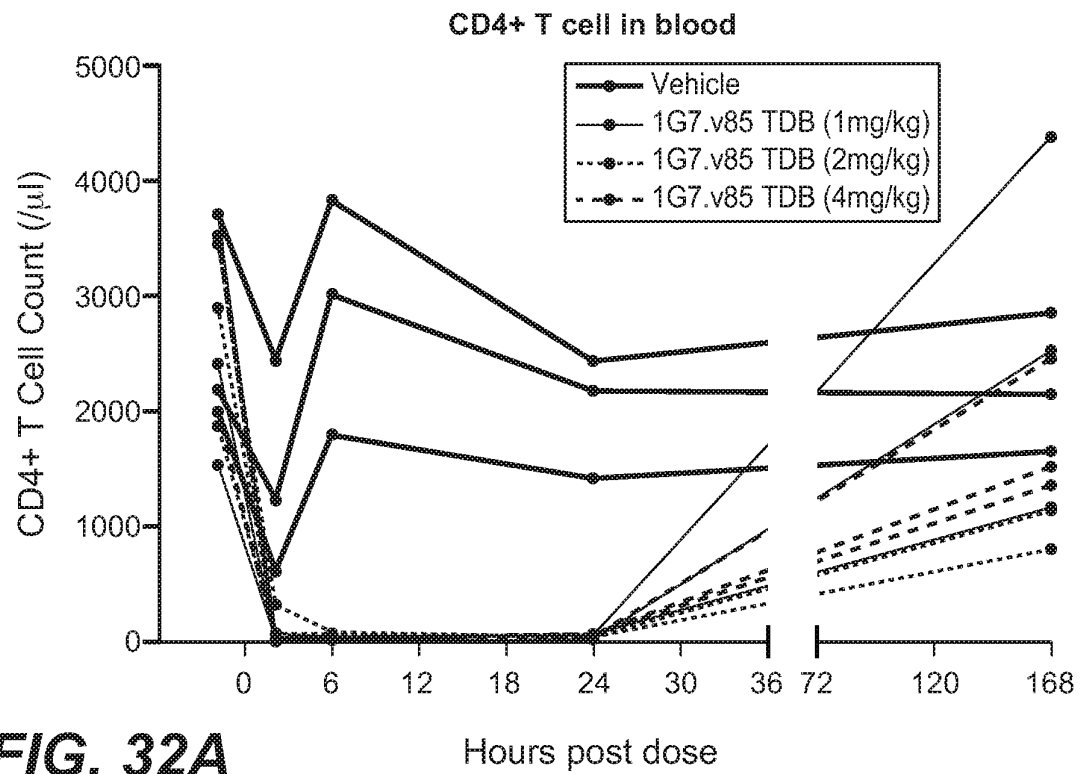
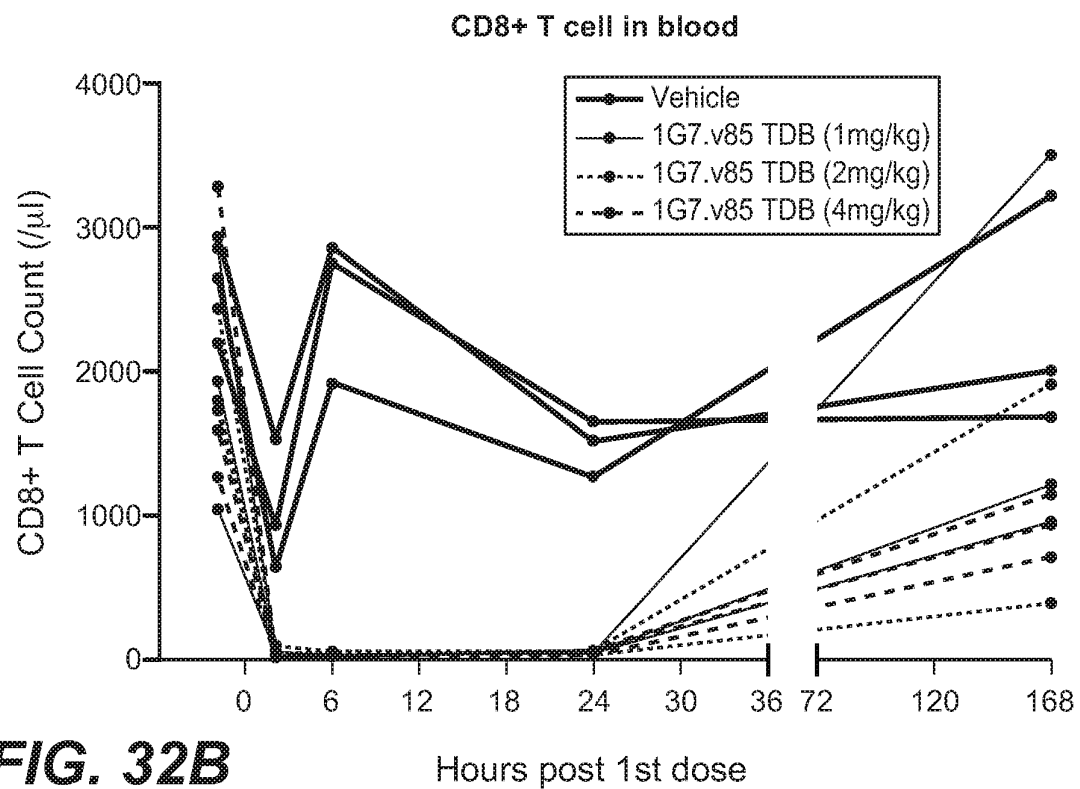
1G7.v85 TDB (IV Inf.)

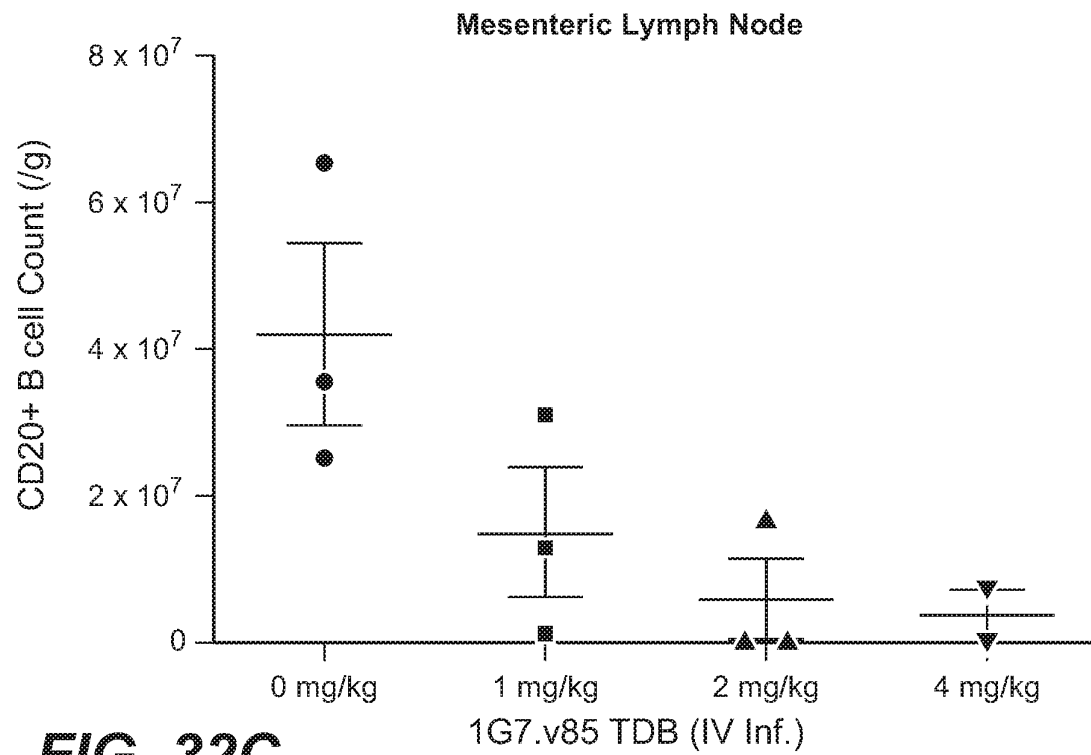
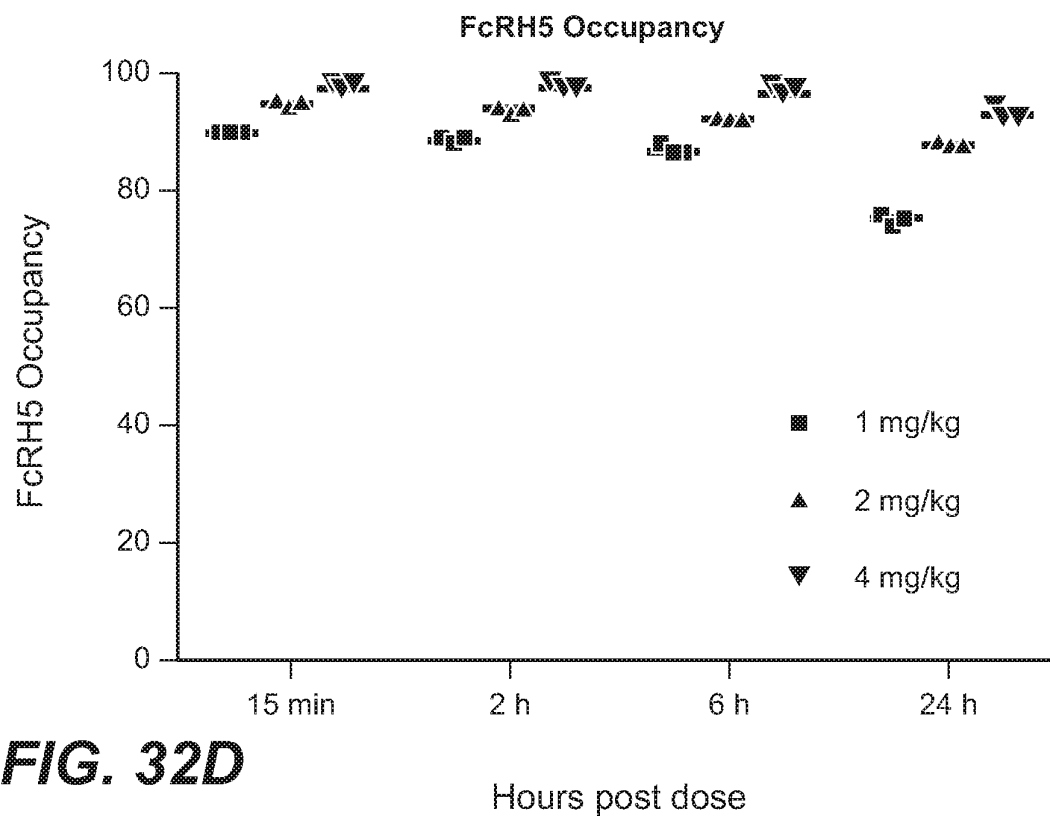
**FIG. 31I**

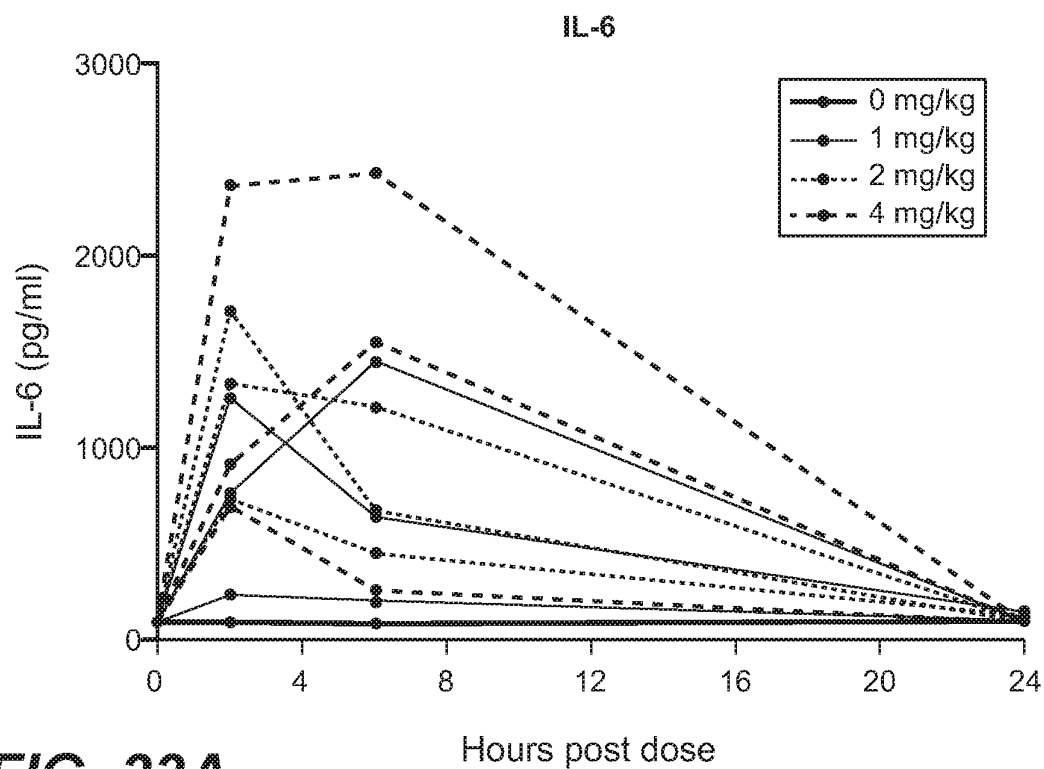
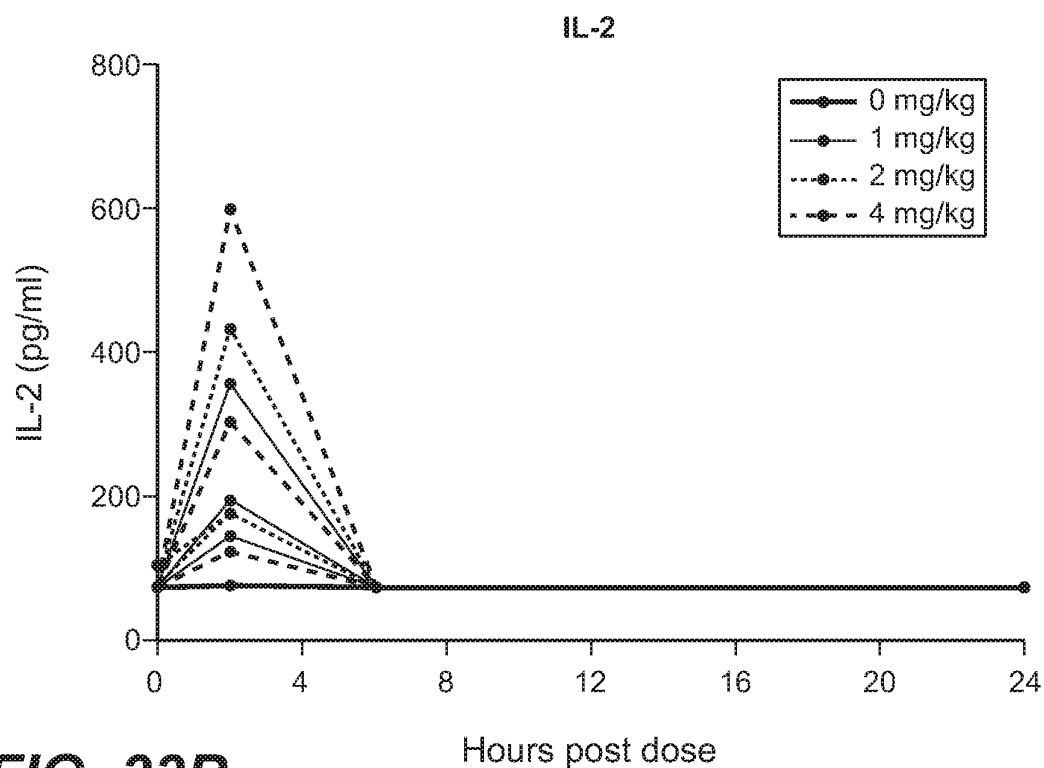
1G7.v85 TDB (IV Inf.)

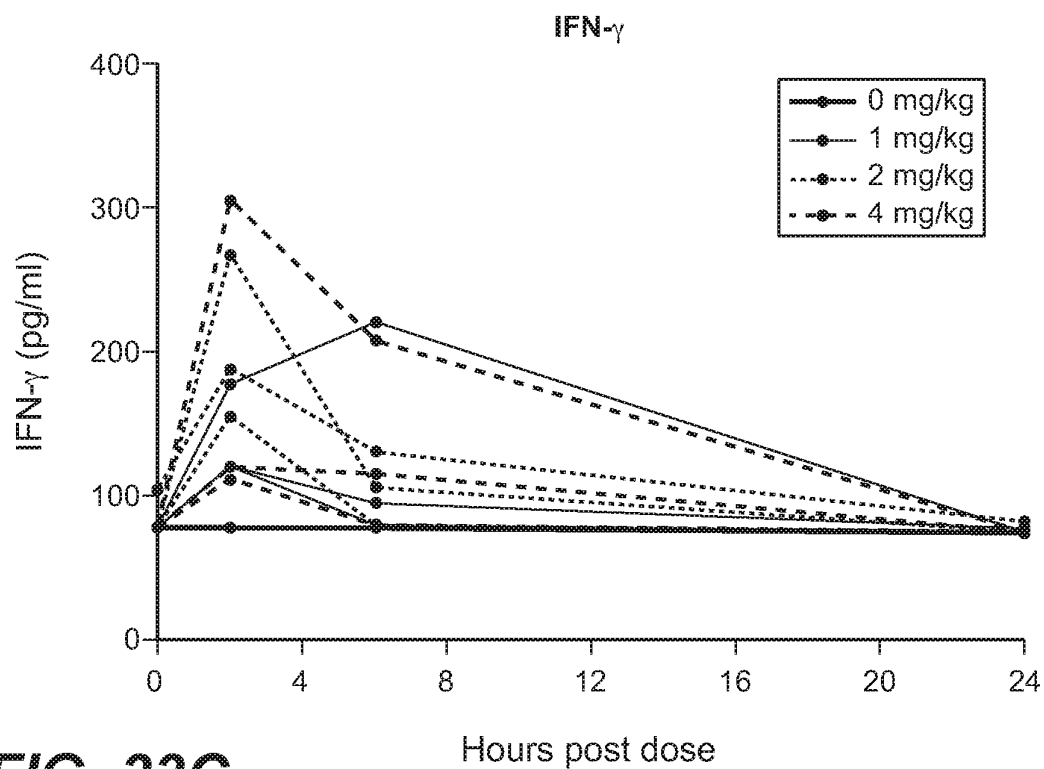
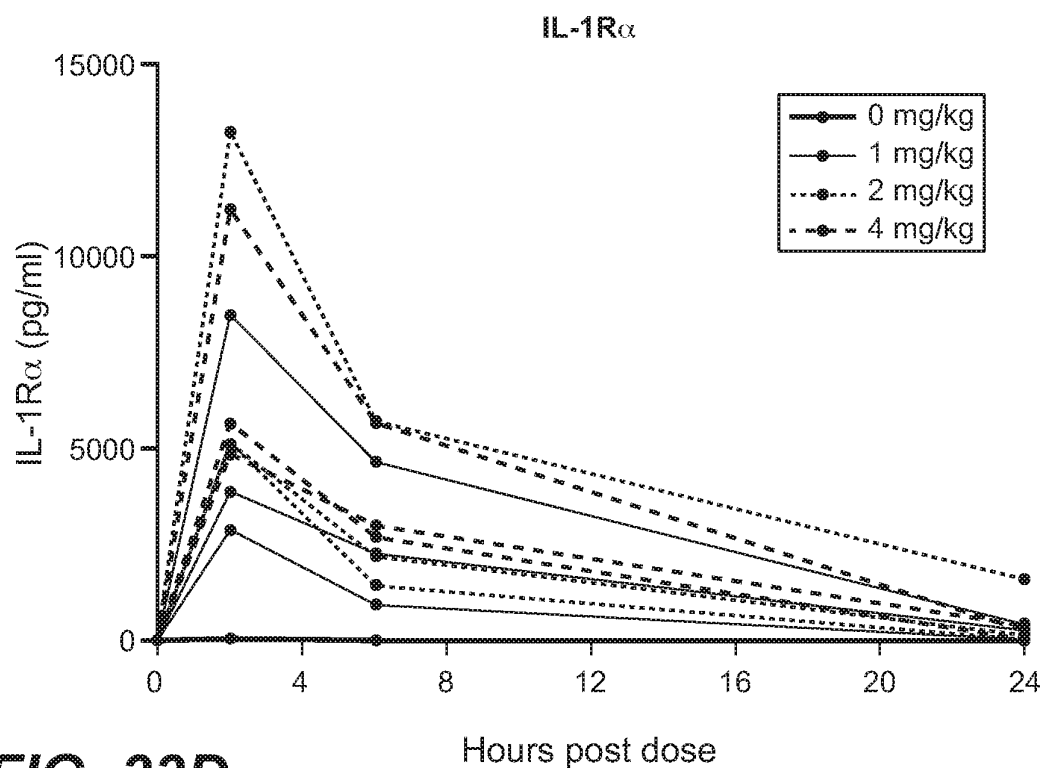
**FIG. 31J**

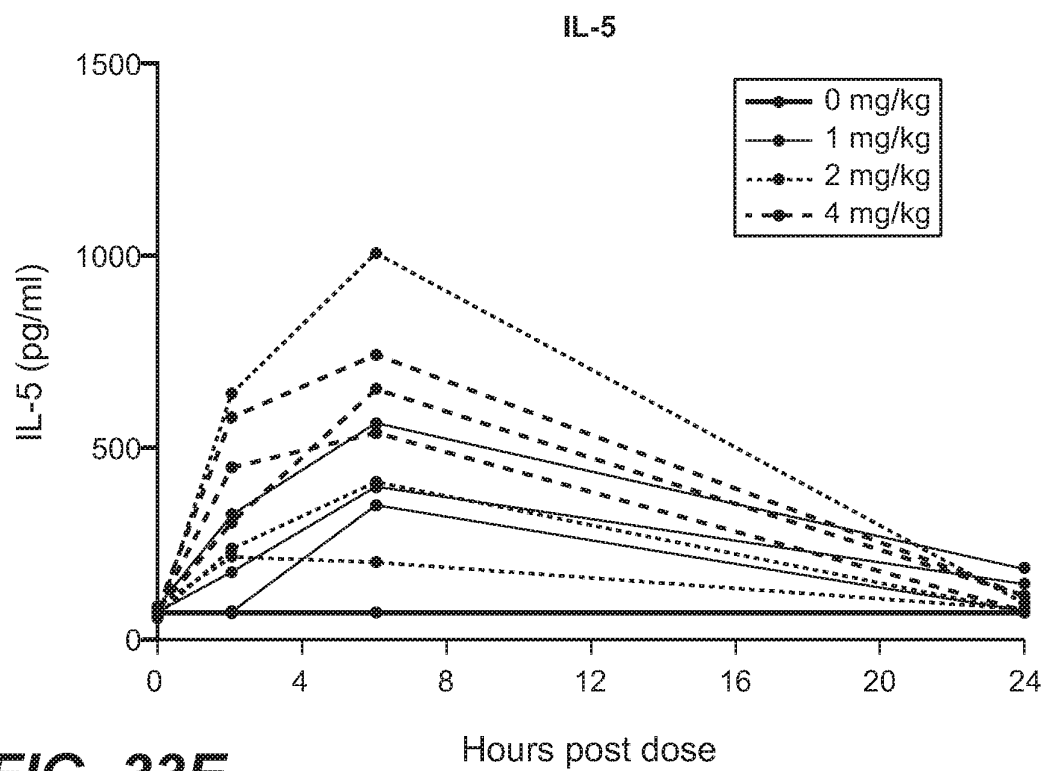
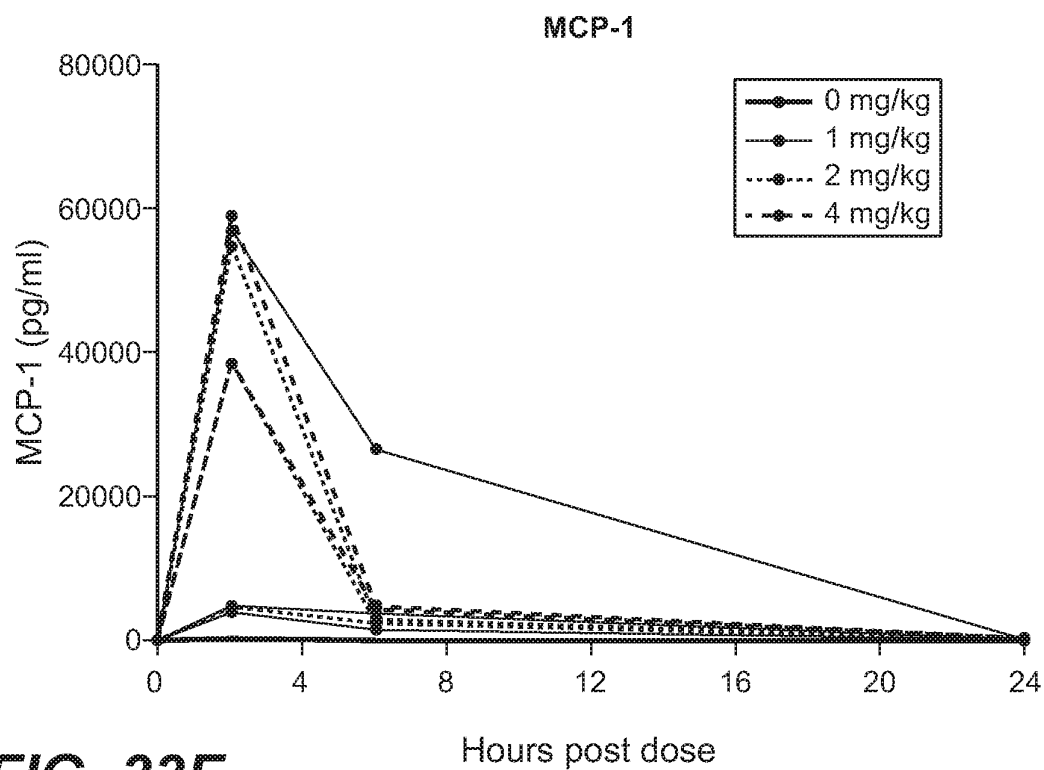
1G7.v85 TDB (IV Inf.)

**FIG. 32A****FIG. 32B**

**FIG. 32C****FIG. 32D**

**FIG. 33A****FIG. 33B**

**FIG. 33C****FIG. 33D**

**FIG. 33E****FIG. 33F**

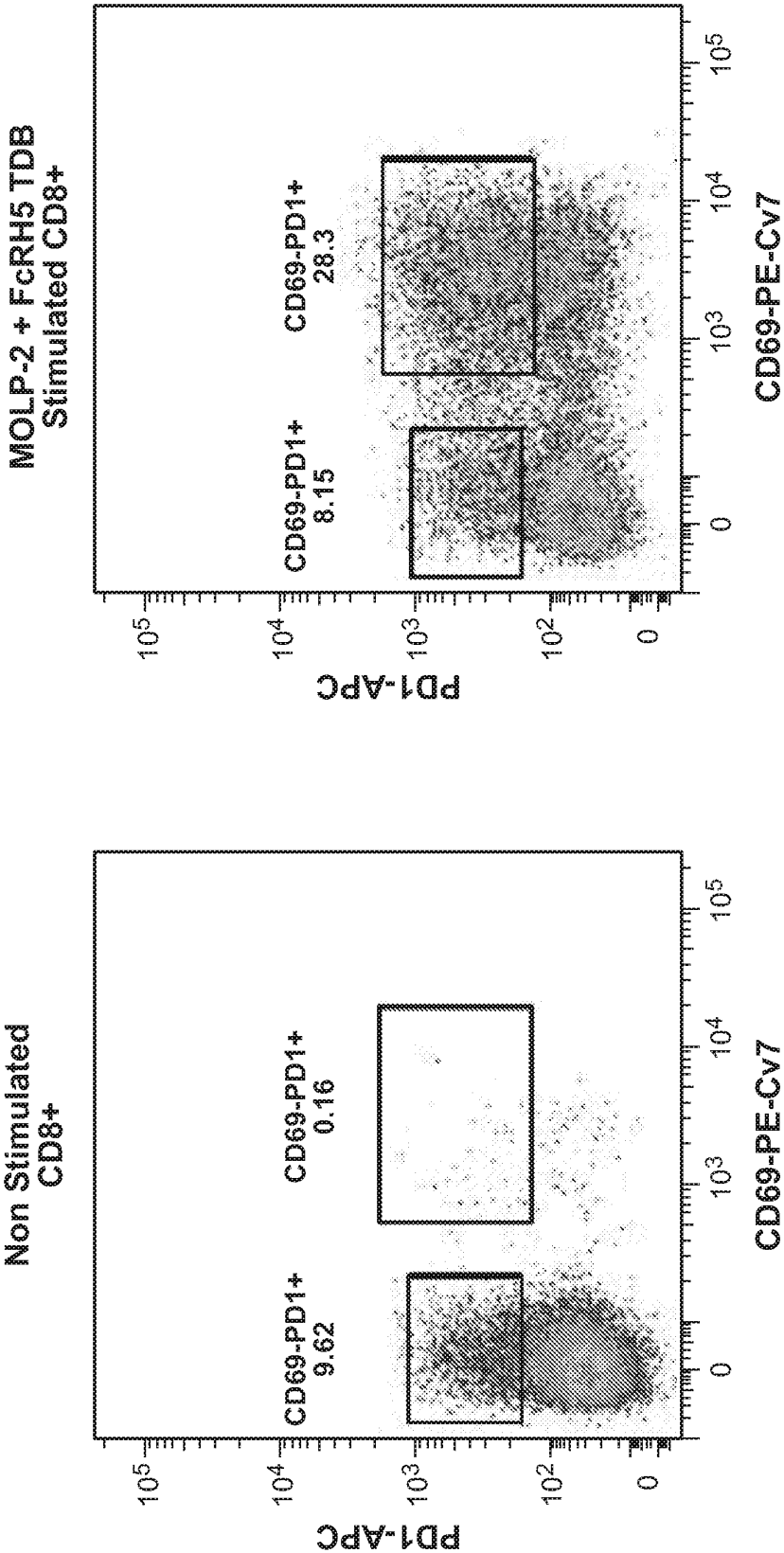


FIG. 34

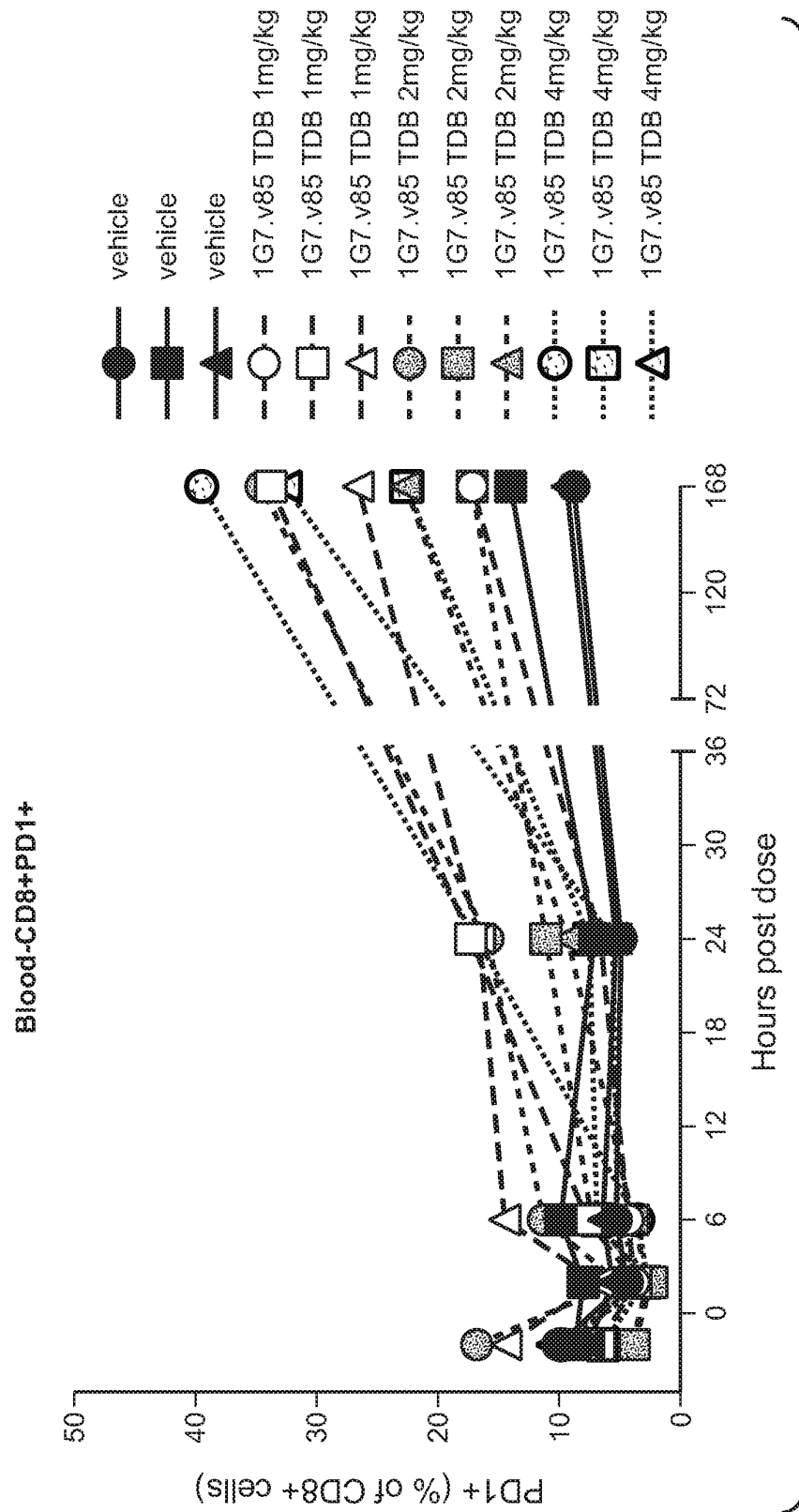


FIG. 35A

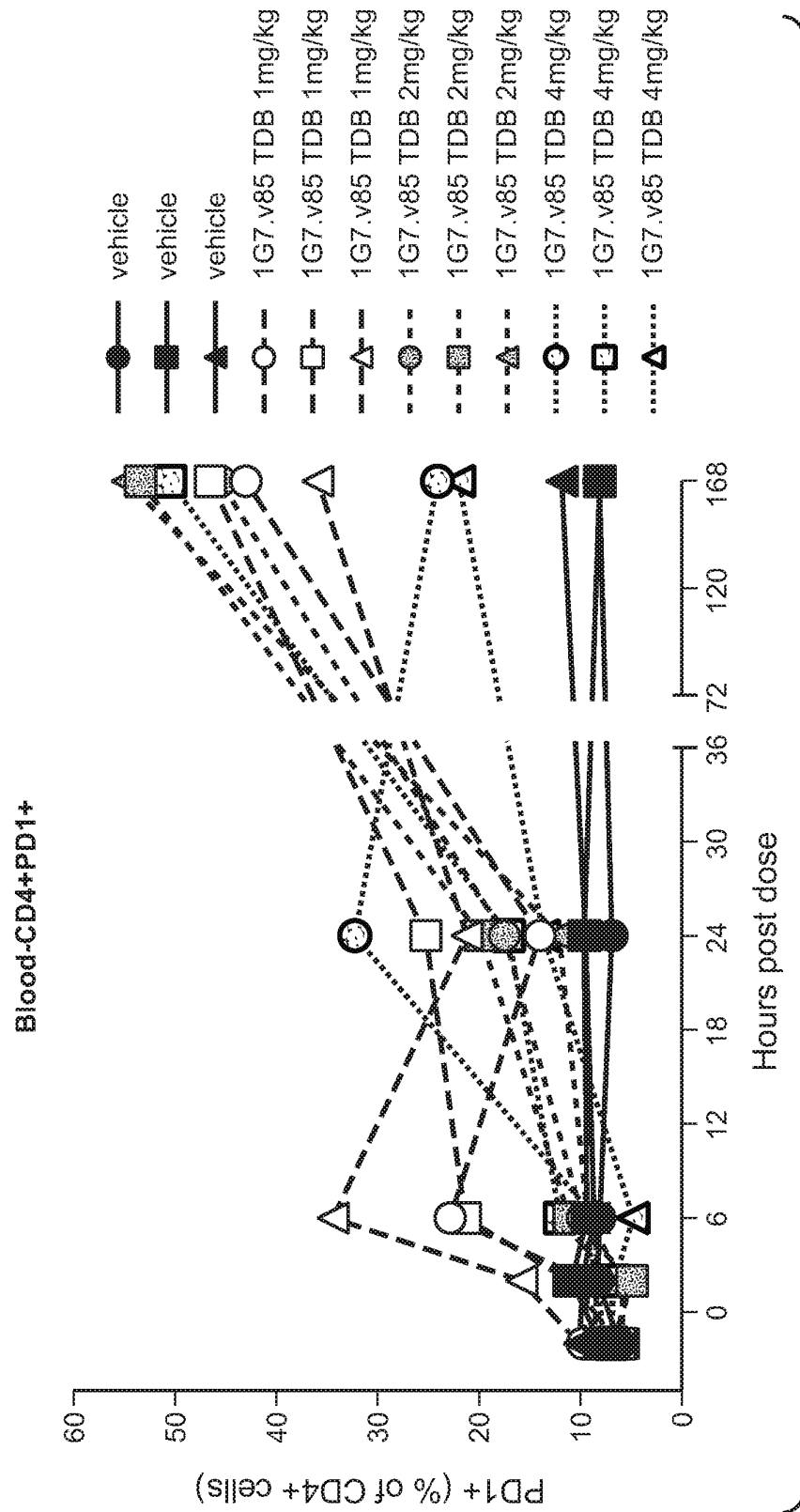
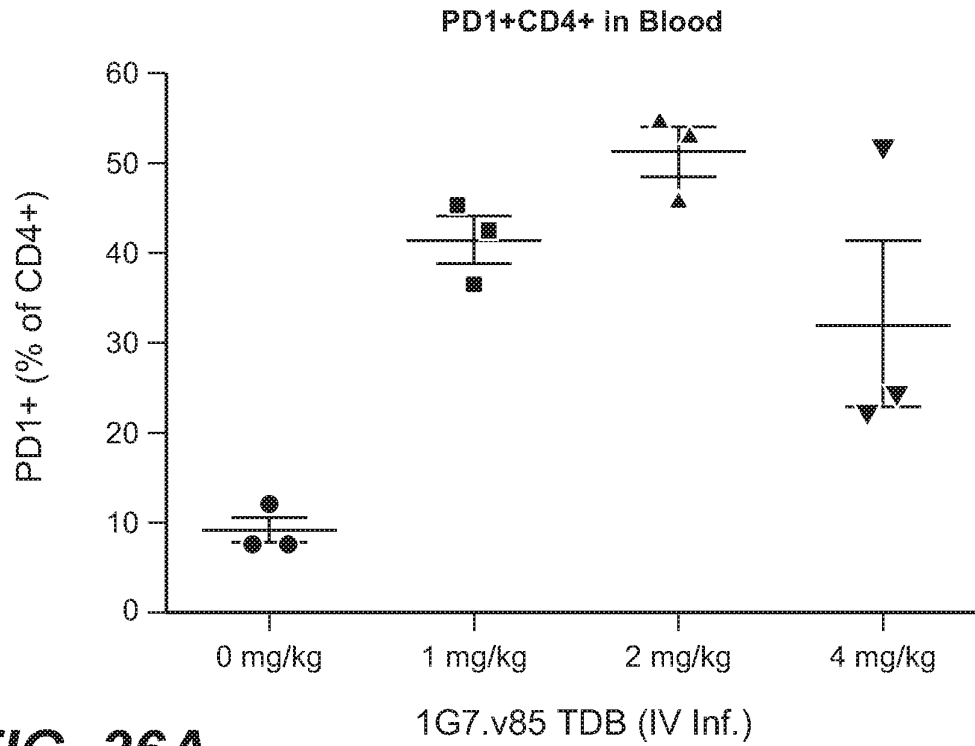
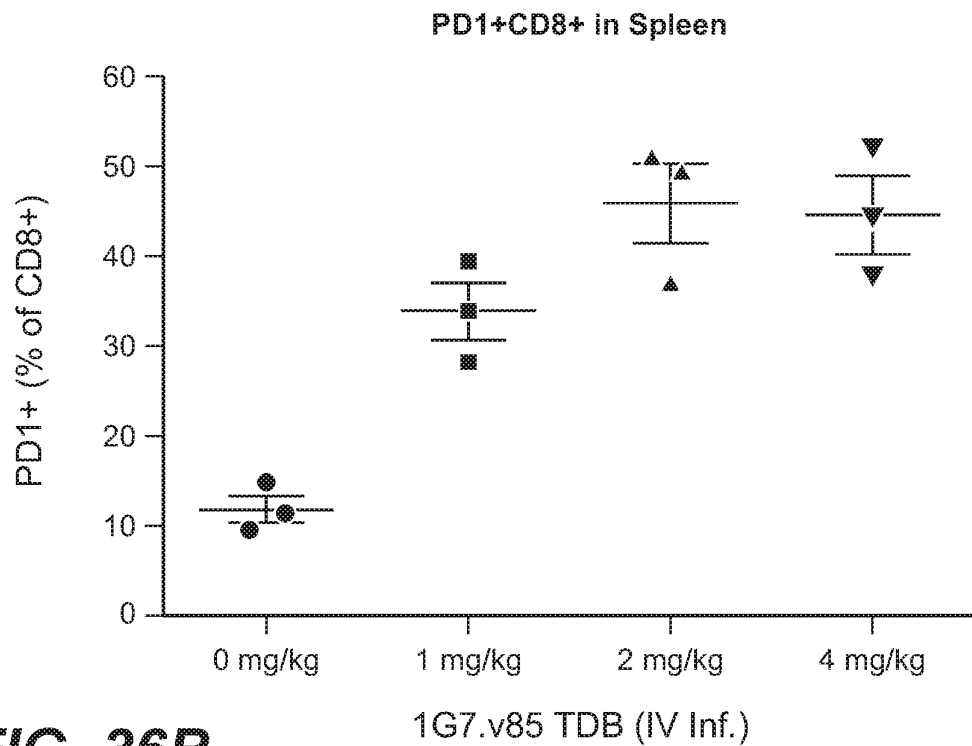
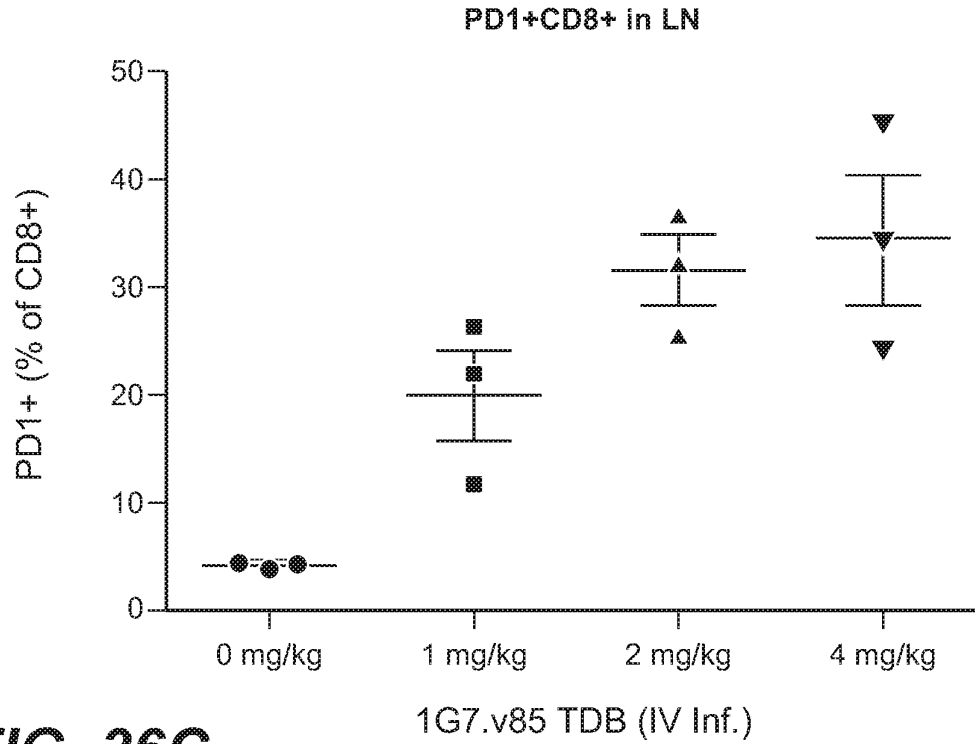
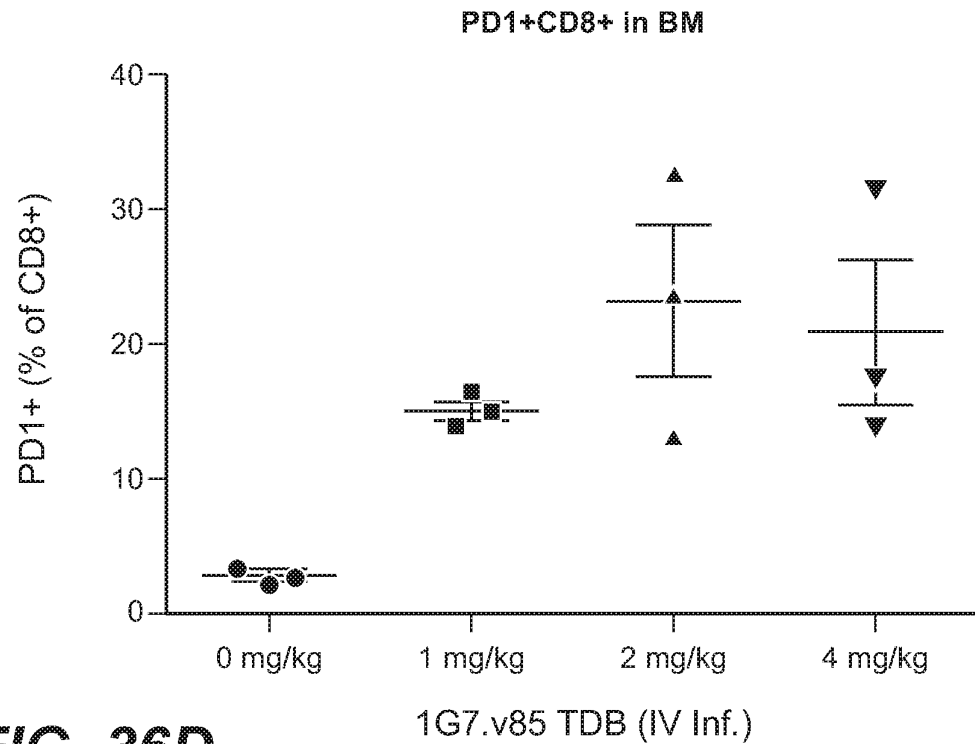
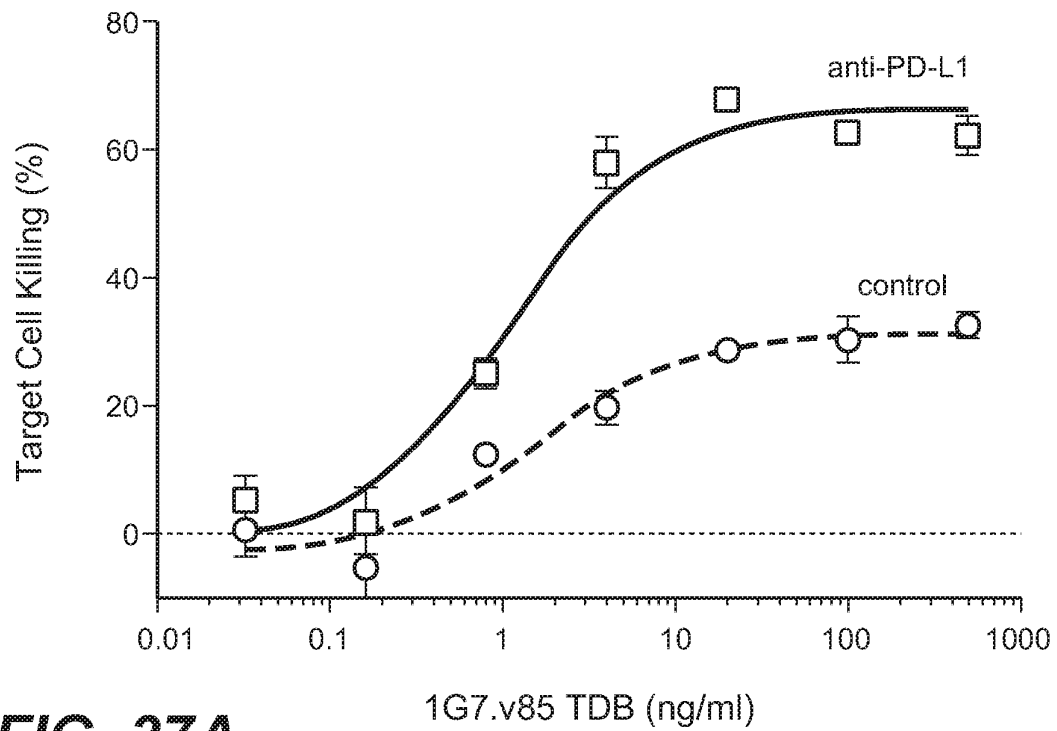
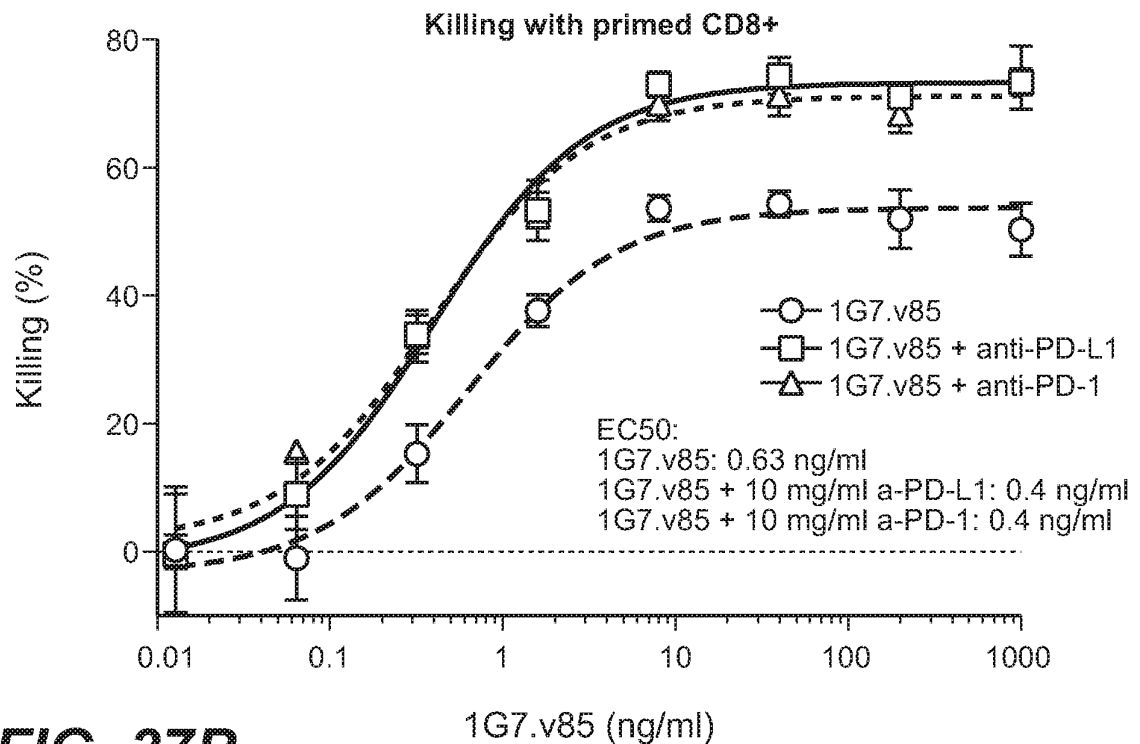
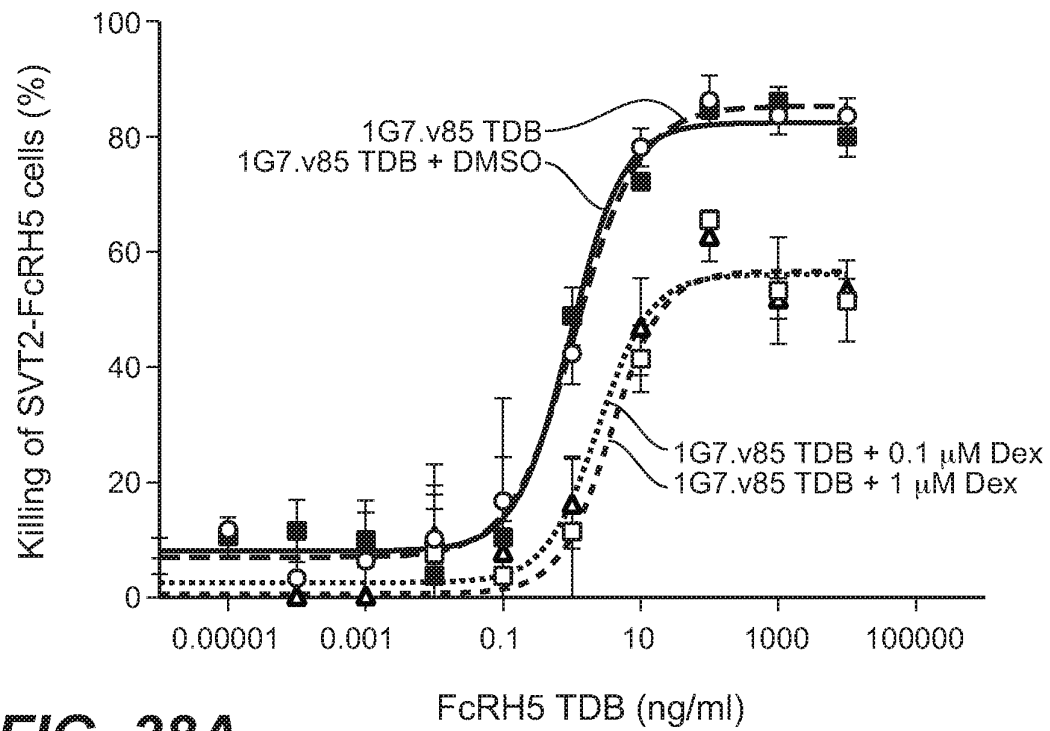


FIG. 35B

**FIG. 36A****FIG. 36B**

**FIG. 36C****FIG. 36D**

**FIG. 37A****FIG. 37B**

**FIG. 38A**

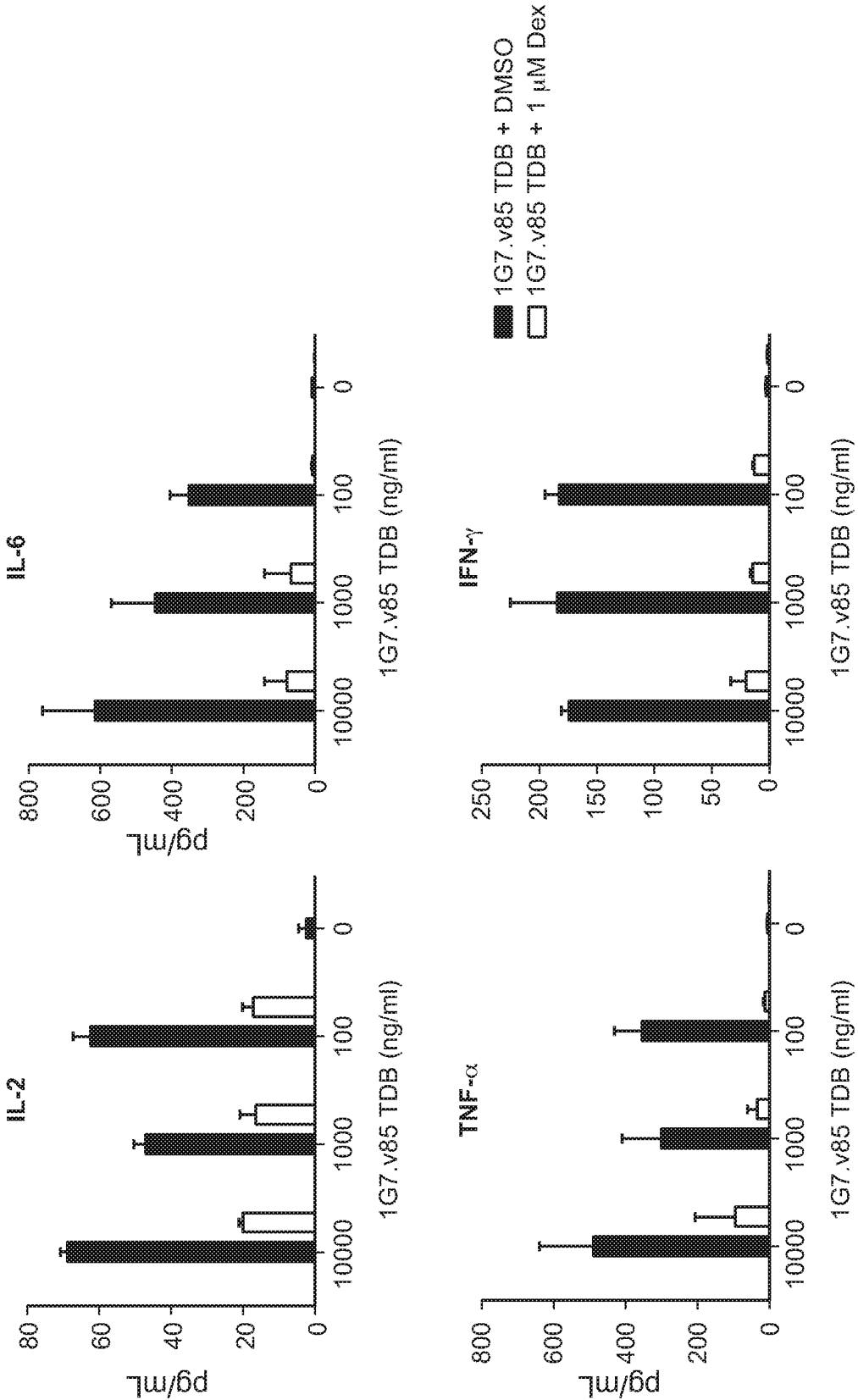


FIG. 38B

bis-Fabs from human IgG1

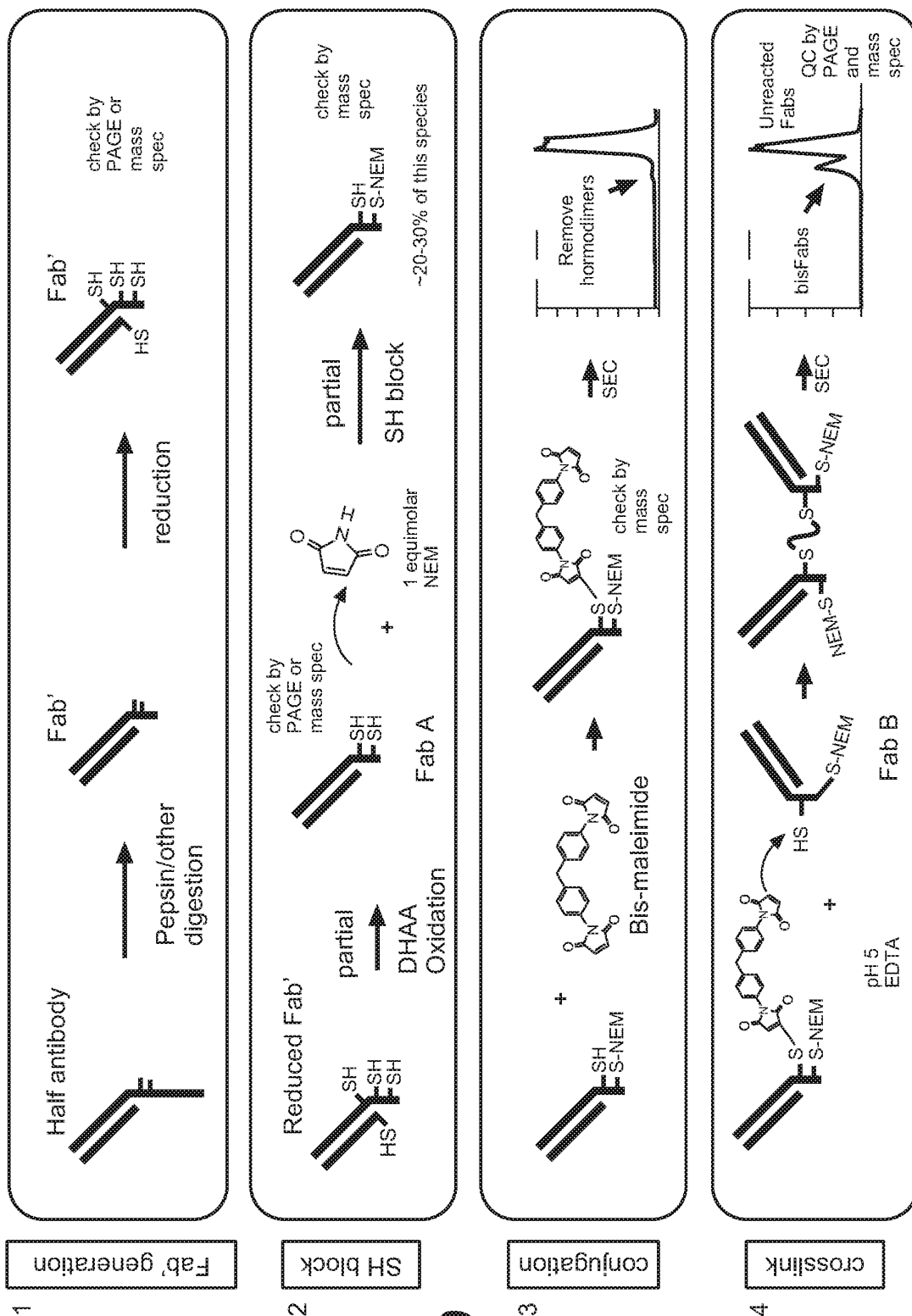
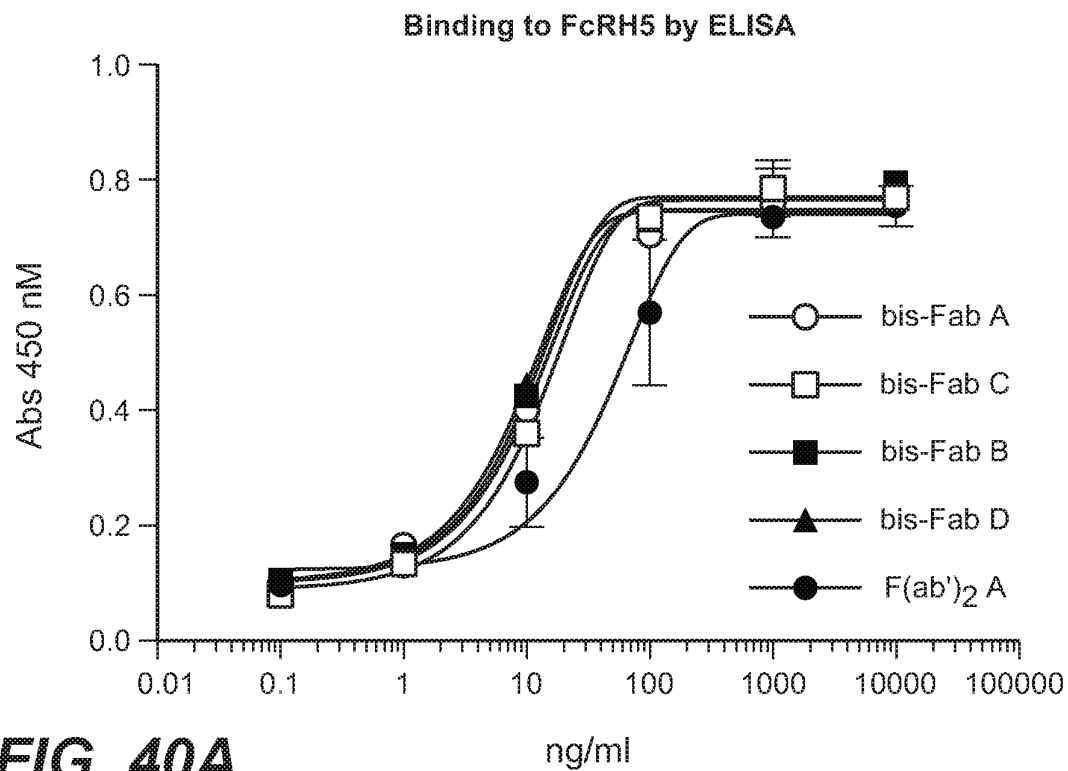
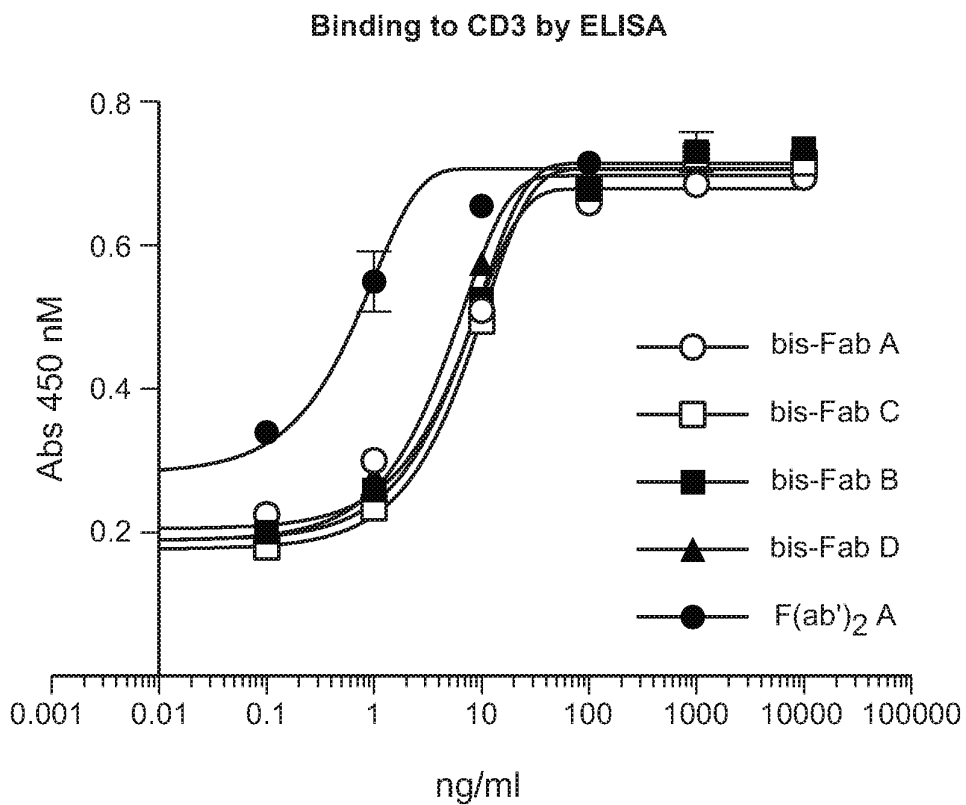
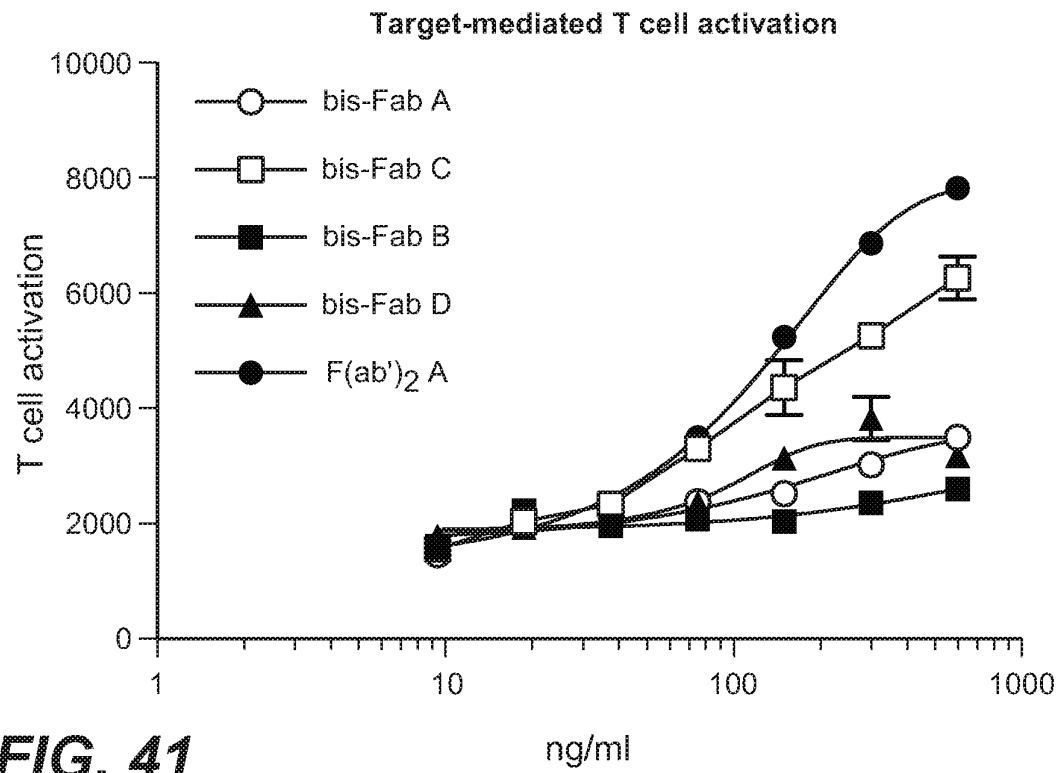


FIG. 39

**FIG. 40A****FIG. 40B**

**FIG. 41**