FIG. 1A FIG. 1B FIG. 1C

FIG. 1

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	A	B	C	D	E	F	28	29	30	31	32	33	34	35	36	37
																								Kabat - CDR L1																		
																								Chothia - CDR L1																		
																																								Contact - CDR L1		
																								A1	A2	A3	A4						A5	A6	A7	A8	A9	A10	A11			
KI Consensus	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	Q
#111-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-1-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-2-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	L	N	W	Y	Q
238-3-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	I	N	W	Y	Q
238-4-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	A	W	Y	Q
238-5-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	Q	W	Y	Q
238-6-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-7-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-8-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-9-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-10-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q
238-11-LC	D	I	Q	V	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	I	T	S	T						D	I	D	D	D	M	N	W	Y	Q

FIG. 1A

Kabat#	38	39	40	41	42	43	44	45	46	47	48	A	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	79	80
														Kabat - CDR L2																															
														Chothia - CDR L2																															
													Contact - CDR L2																															
														B1	B2	B3	B4	B5	B6	B7																							
KI Consensus	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	T	L	T	I	S	S	L	Q	P
#111-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-1-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-2-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-3-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-4-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-5-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-6-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	*S*	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-7-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	A	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-8-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-9-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-10-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
238-11-LC	Q	K	P	G	K	V	P	K	L	L	I	S	G	G	N	T	L	R	P	G	V	P	S	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P

FIG. 1B

Kabat#	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	A	B	C	D	E	F	96	97	98	99	100	101	102	103	104	105	106	107	108	
									Kabat - CDR L3																											
									Chothia - CDR L3																											
									Contact - CDR L3																											
									C1	C2	C3	C4	C5	C6	C7							C8	C9													
KI																																			
Consensus	E	D	F	A	T	Y	Y	C	Q	Q	Y	N	S	Y	P							-	T	F	G	Q	G	T	K	V	E	I	K	R	SEQ ID NO: 65
#111-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 1
238-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	V	E	I	K		SEQ ID NO: 6
238-1-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	V	E	I	K		SEQ ID NO: 7
238-2-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 8
238-3-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 9
238-4-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 10
238-5-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 11
238-6-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 12
238-7-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 13
238-8-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 14
238-9-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 15
238-10-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 16
238-11-LC	E	D	V	A	T	Y	Y	C	L	Q	S	D	S	L	P							Y	T	F	G	Q	G	T	K	L	E	I	K		SEQ ID NO: 17

FIG. 1C

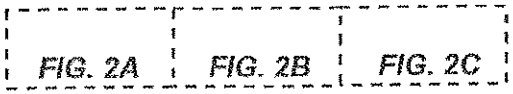


FIG. 2

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	A	B	36	37	38	39	40	41
																															Kabat - CDR H1													
																										Chothia - CDR H1																	
																														Contact - CDR H1													
																										D1	D2	D3	D4	D5	D6			D7	D8	D9	D10						
VH7																																											
Consensus	Q	V	Q	L	V	Q	S	G	S	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	S		Y	A	M	N	W	V	R	Q	A	P
#111-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-1-HC	E	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-2-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-3-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-4-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-5-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-6-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-7-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-8-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-9-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-10-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P
238-11-HC	Q	V	Q	L	V	Q	S	G	P	E	L	K	K	P	G	A	S	V	K	V	S	C	K	A	S	G	Y	T	F	T	N		Y	G	M	N	W	V	R	Q	A	P

FIG. 2A

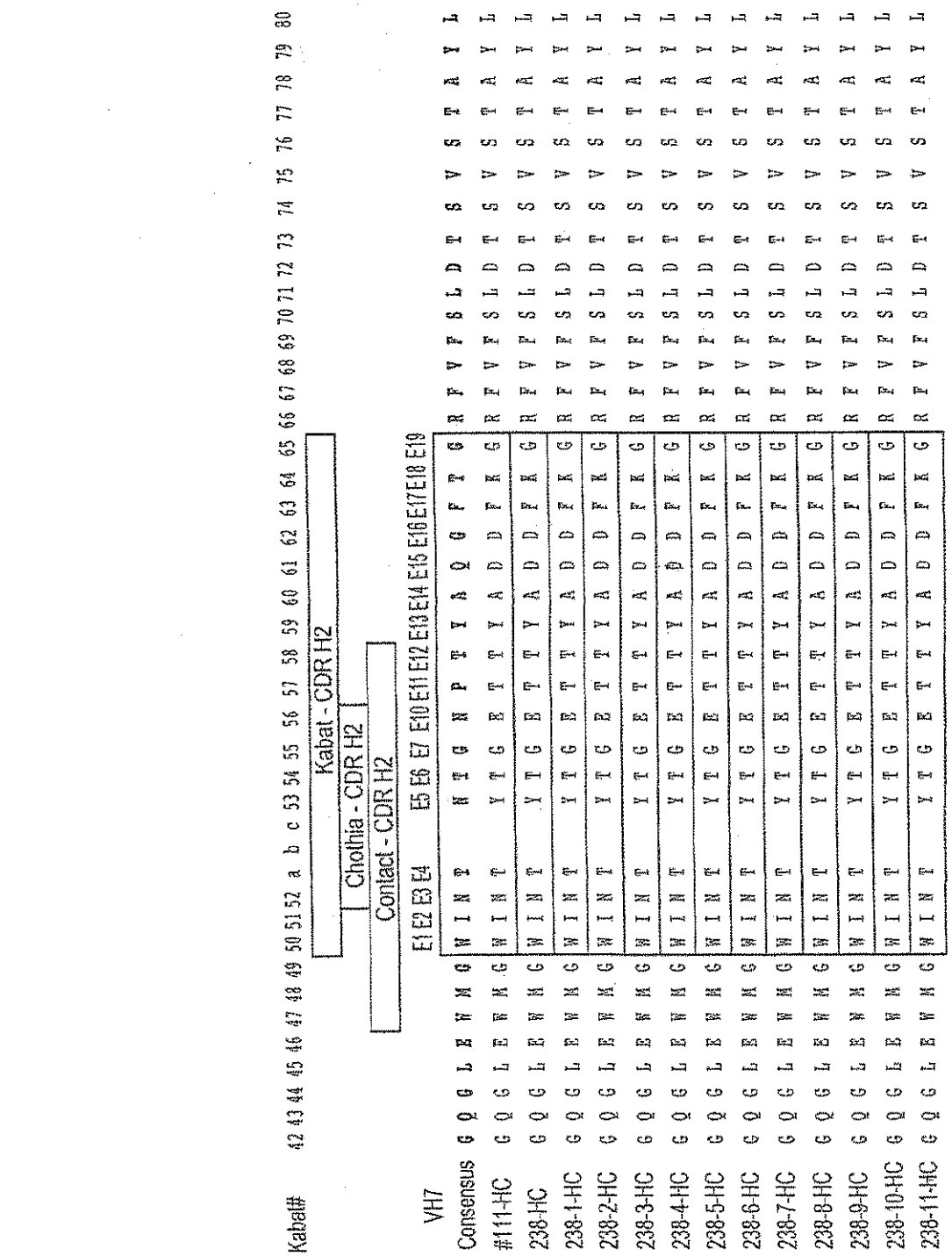

Kabat#
42 43 44 45 46 47 48 49 50 51 52 a b c 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
Kabat - CDR H2
Chothia - CDR H2
Contact - CDR H2
E1 E2 E3 E4 E5 E6 E7 E10 E11 E12 E13 E14 E15 E16 E17 E18 E19
VH7
Consensus G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
#111-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-1-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-2-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-3-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-4-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-5-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-6-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-7-HC G Q G L E W M G W I N T Y T G E P T Y A D D T K G R F V F S L D T S V S T A Y L
238-8-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-9-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-10-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L
238-11-HC G Q G L E W M G W I N T Y T G E P T Y A D D F K G R F V F S L D T S V S T A Y L

FIG. 2B

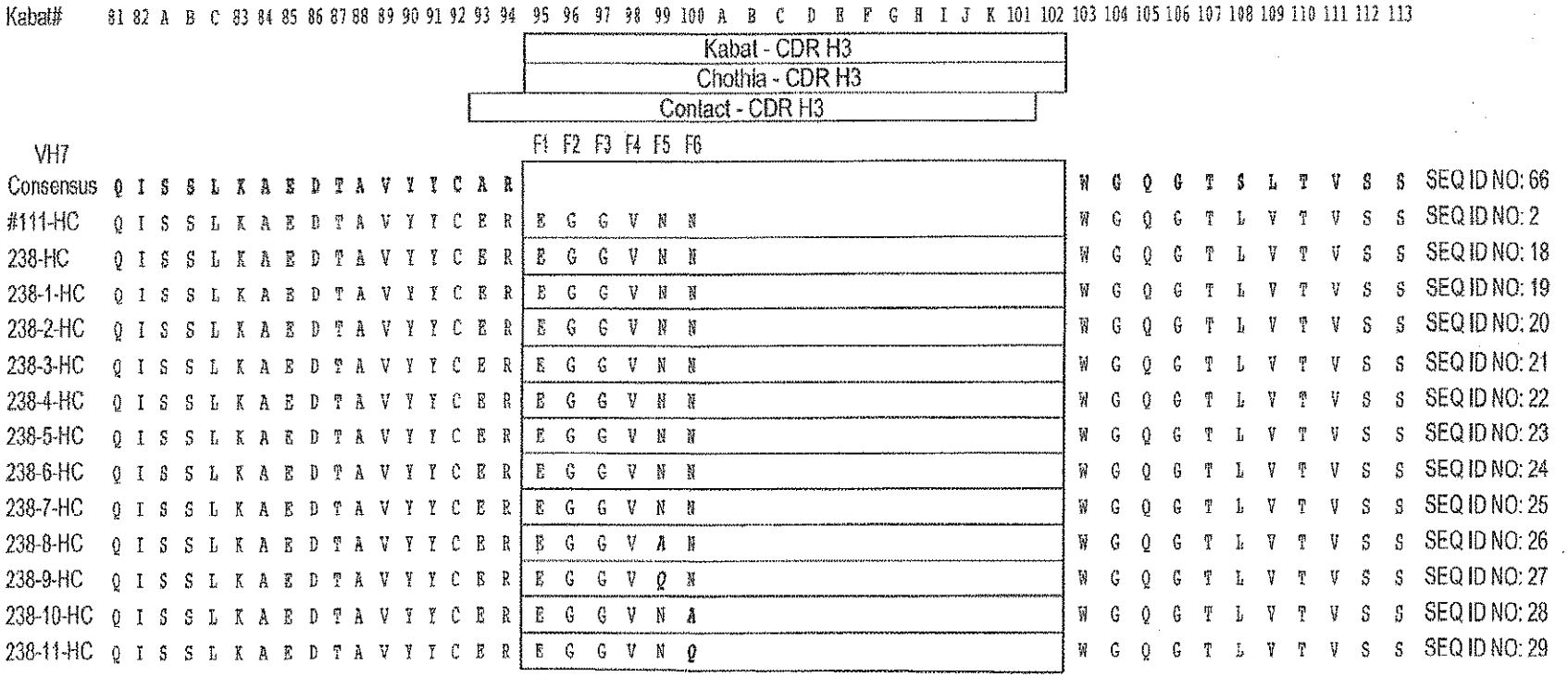

Kabat# 81 82 A B C 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 A B C D E F G H I J K 101 102 103 104 105 106 107 108 109 110 111 112 113
Kabat - CDR H3
Chothia - CDR H3
Contact - CDR H3
F1 F2 F3 F4 F5 F6
VH7
Consensus Q I S S L K A E D T A V Y Y C A R W G Q G T S L T V S S SEQ ID NO: 66
#111-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 2
238-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 18
238-1-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 19
238-2-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 20
238-3-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 21
238-4-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 22
238-5-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 23
238-6-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 24
238-7-HC Q I S S L K A E D T A V Y Y C E R E G G V N N W G Q G T L V T V S S SEQ ID NO: 25
238-8-HC Q I S S L K A E D T A V Y Y C E R E G G V A N W G Q G T L V T V S S SEQ ID NO: 26
238-9-HC Q I S S L K A E D T A V Y Y C E R E G G V Q N W G Q G T L V T V S S SEQ ID NO: 27
238-10-HC Q I S S L K A E D T A V Y Y C E R E G G V N A W G Q G T L V T V S S SEQ ID NO: 28
238-11-HC Q I S S L K A E D T A V Y Y C E R E G G V N Q W G Q G T L V T V S S SEQ ID NO: 29

FIG. 2C

ATGAAGAAGAATATTGCGTTCCTACTTGCCTCTATGTTTGTCTTTTCTATAGCTACAAACGCGTATGCTGAT
ATCCAGGTGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGCGTCACCATCACTTGCATTACC
AGCACTGATATTGATGATGATATGAACTGGTATCAGCAGAAACCAGGGAAAGTTCCTAAGCTCCTGATCTCT
GGAGGCAATACTCTTCGTCCTGGGGTCCCATCTCGGTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTC
ACCATCAGCAGCCTGCAGCCTGAAGATGTTGCAACTTATTACTGTTTGCAAAGTGATTCTTTGCCGTACACG
TTTGGCCAGGGTACCAAGGTGGAGATCAAACGAACTGTGGCTGCACCATCTGTCTTCATCTTCCCGCCATCT
GATGAGCAGTTGAAATCTGGAACTGCTTCTGTTGTGTGCCTGCTGAATAACTTCTATCCCAGAGAGGCCAAA
GTACAGTGGAAGGTGGATAACGCCCTCCAATCGGGTAACTCCCAGGAGAGTGTCACAGAGCAGGACAGCAAG
GACAGCACCTACAGCCTCAGCAGCACCCTGACGCTGAGCAAAGCAGACTACGAGAAACACAAAGTCTACGCC
TGCGAAGTCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGCTTCAACAGGGGAGAGTGTTAA

FIG. 3

DIQVTQSPSSLSASVGDRVTITC*ITSTDIDDDMN*WYQQKPGKVPKLLIS*GGNTLRP*GVPSRFSGSGSGTDFT
LTISSLQPEDVATYYC*LQSDSLPYT*FGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREA
KVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
(SEQ ID NO: 47)

FR1-LC: DIQVTQSPSSLSASVGDRVTITC (SEQ ID NO: 48)
FR2-LC: WYQQKPGKVPKLLIS (SEQ ID NO: 49)
FR3-LC: GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC (SEQ ID NO: 50)
FR4-LC: FGQGTKVEIK (SEQ ID NO: 51)
HVR1-LC: *ITSTDIDDDMN* (SEQ ID NO: 30)
HVR2-LC: *GGNTLRP* (SEQ ID NO: 35)
HVR3-LC: *LQSDSLPYT* (SEQ ID NO: 38)
CL1:
RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTL
TLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO: 52)

FIG. 4

ATGAAAAAGAATATCGCATTTCTTCTTGCATCTATGTTCGTTTTTTCTATTGCTACAAACGCGTACGCT***CAG***
GTCCAGCTGGTGCAATCTGGGCCTGAGTTGAAGAAGCCTGGGGCCTCAGTGAAGGTTTCCTGCAAGGCTTCT
GGATACACCTTCACTAACTATGGAATGAACTGGGTGCGCCAAGCCCCTGGACAAGGGCTTGAGTGGATGGGA
TGGATTAACACCTACACTGGAGAGACAACATATGCTGATGACTTCAAGGGACGGTTTGTCTTCTCCTTGGAC
ACCTCTGTCAGCACGGCATATCTGCAGATCAGCAGCCTCAAGGCTGAGGACACTGCCGTGTATTACTGTGAG
CGCGAGGGGGGGGTTAATAACTGGGGCCAAGGGACCCTGGTCACCGTCTCCTCAGCCTCCACCAAGGGCCCA
TCGGTCTTCCCCCTGGCACCCTCCTCCAAGAGCACCTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAG
GACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACCAGCGGCGTGCACACCTTCCCG
GCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACC
CAGACCTACATCTGCAACGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGAAAGTTGAGCCCAAATCT
TGTGACAAAACTCACACA**TAA**

FIG. 5

QVQLVQSGPELKKPGASVKVSCKAS***GYTFTNYGMN***WVRQAPGQGLEWMG***WINTYTGETTYADDFKG***RFVFSL
DTSVSTAYLQISSLKAEDTAVYYCER***EGGVNN***WGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLV
KDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPK
SCDKTHT (SEQ ID NO: 54)

FR1-HC: QVQLVQSGPELKKPGASVKVSCKAS (SEQ ID NO: 55)
FR2-HC: WVRQAPGQGLEWMG (SEQ ID NO: 56)
FR3-HC: RFVFSLDTSVSTAYLQISSLKAEDTAVYYCER (SEQ ID NO: 57)
FR4-HC: WGQGTLVTVSS (SEQ ID NO: 58)
HVR1-HC: ***GYTFTNYGMN*** (SEQ ID NO: 39)
HVR2-HC: ***WINTYTGETTYADDFKG*** (SEQ ID NO: 40)
HVR3-HC: ***EGGVNN*** (SEQ ID NO: 41)
CH1:
ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHT (SEQ ID NO: 59)

FIG. 6

ATGAAGAAGAATATTGCGTTCCTACTTGCCTCTATGTTTGTCTTTTCTATAGCTACAAACGCGTATGCT*GAT*
ATCCAGGTGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGCGTCACCATCACTTGCATTACC
AGCACTGATATTGATGATGATATGAACTGGTATCAGCAGAAACCAGGGAAAGTTCCTAAGCTCCTGATCTCT
GGAGGCAATACTCTTCGTCCTGGGGTCCCATCTCGGTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTC
ACCATCAGCAGCCTGCAGCCTGAAGATGTTGCAACTTATTACTGTTTGCAAAGTGATTCTTTGCCGTACACG
TTTGGCCAGGGTACCAAGGTGGAGATCAAACGAACTGTGGCTGCACCATCTGTCTTCATCTTCCCGCCATCT
GATGAGCAGTTGAAATCTGGAACTGCTTCTGTTGTGTGCCTGCTGAATAACTTCTATCCCAGAGAGGCCAAA
GTACAGTGGAAGGTGGATAACGCCCTCCAATCGGGTAACTCCCAGGAGAGTGTCACAGAGCAGGACAGCAAG
GACAGCACCTACAGCCTCAGCAGCACCCTGACGCTGAGCAAAGCAGACTACGAGAAACACAAAGTCTACGCC
TGCGAAGTCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGCTTCAACAGGGGAGAGTGT*TAA*

FIG. 7

DIQVTQSPSSLSASVGDRVTITC***ITSTDIDDDMN***WYQQKPGKVPKLLIS***GGNTLRP***GVPSRFSGSGSGTDFT
LTISSLQPEDVATYYC***LQSDSLPYT***FGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREA
KVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
(SEQ ID NO: 61)

FR1-LC: DIQVTQSPSSLSASVGDRVTITC (SEQ ID NO: 48)
FR2-LC: WYQQKPGKVPKLLIS (SEQ ID NO: 49)
FR3-LC: GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC (SEQ ID NO: 50)
FR4-LC: FGQGTKVEIK (SEQ ID NO: 51)
HVR1-LC: ***ITSTDIDDDMN*** (SEQ ID NO: 30)
HVR2-LC: ***GGNTLRP*** (SEQ ID NO: 35)
HVR3-LC: ***LQSDSLPYT*** (SEQ ID NO: 38)
CL1:
RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTL
TLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO: 52)

FIG. 8

ATGAAAAAGAATATCGCATTTCTTCTTGCATCTATGTTCGTTTTTTCTATTGCTACAAACGCGTACGCTGAA
GTCCAGCTGGTGCAATCTGGGCCTGAGTTGAAGAAGCCTGGGGCCTCAGTGAAGGTTTCCTGCAAGGCTTCT
GGATACACCTTCACTAACTATGGAATGAACTGGGTGCGCCAAGCCCCTGGACAAGGGCTTGAGTGGATGGGA
TGGATTAACACCTACACTGGAGAGACAACATATGCTGATGACTTCAAGGGACGGTTTGTCTTCTCCTTGGAC
ACCTCTGTCAGCACGGCATATCTGCAGATCAGCAGCCTCAAGGCTGAGGACACTGCCGTGTATTACTGTGAG
CGCGAGGGGGGGGTTAATAACTGGGGCCAAGGGACCCTGGTCACCGTCTCCTCAGCCTCCACCAAGGGCCCA
TCGGTCTTCCCCCTGGCACCCTCCTCCAAGAGCACCTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAG
GACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACCAGCGGCGTGCACACCTTCCCG
GCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACC
CAGACCTACATCTGCAACGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGAAAGTTGAGCCCAAATCT
TGTGACAAAACTCACACATAA

FIG. 9

EVQLVQSGPELKKPGASVKVSCKAS*GYTFTNYGMN*WVRQAPGQGLEWMG*WINTYTGETTYADDFKG*RFVFSL
DTSVSTAYLQISSLKAEDTAVYYCER*EGGVNN*WGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLV
KDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPK
SCDKTHT (SEQ ID NO: 63)

FR1-HC: EVQLVQSGPELKKPGASVKVSCKAS (SEQ ID NO: 64)
FR2-HC: WVRQAPGQGLEWMG (SEQ ID NO: 56)
FR3-HC: RFVFSLDTSVSTAYLQISSLKAEDTAVYYCER (SEQ ID NO: 57)
FR4-HC: WGQGTLVTVSS (SEQ ID NO: 58)
HVR1-HC: *GYTFTNYGMN* (SEQ ID NO: 39)
HVR2-HC: *WINTYTGETTYADDFKG* (SEQ ID NO: 40)
HVR3-HC: *EGGVNN* (SEQ ID NO: 41)
CH1:
ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHT (SEQ ID NO: 59)

FIG. 10

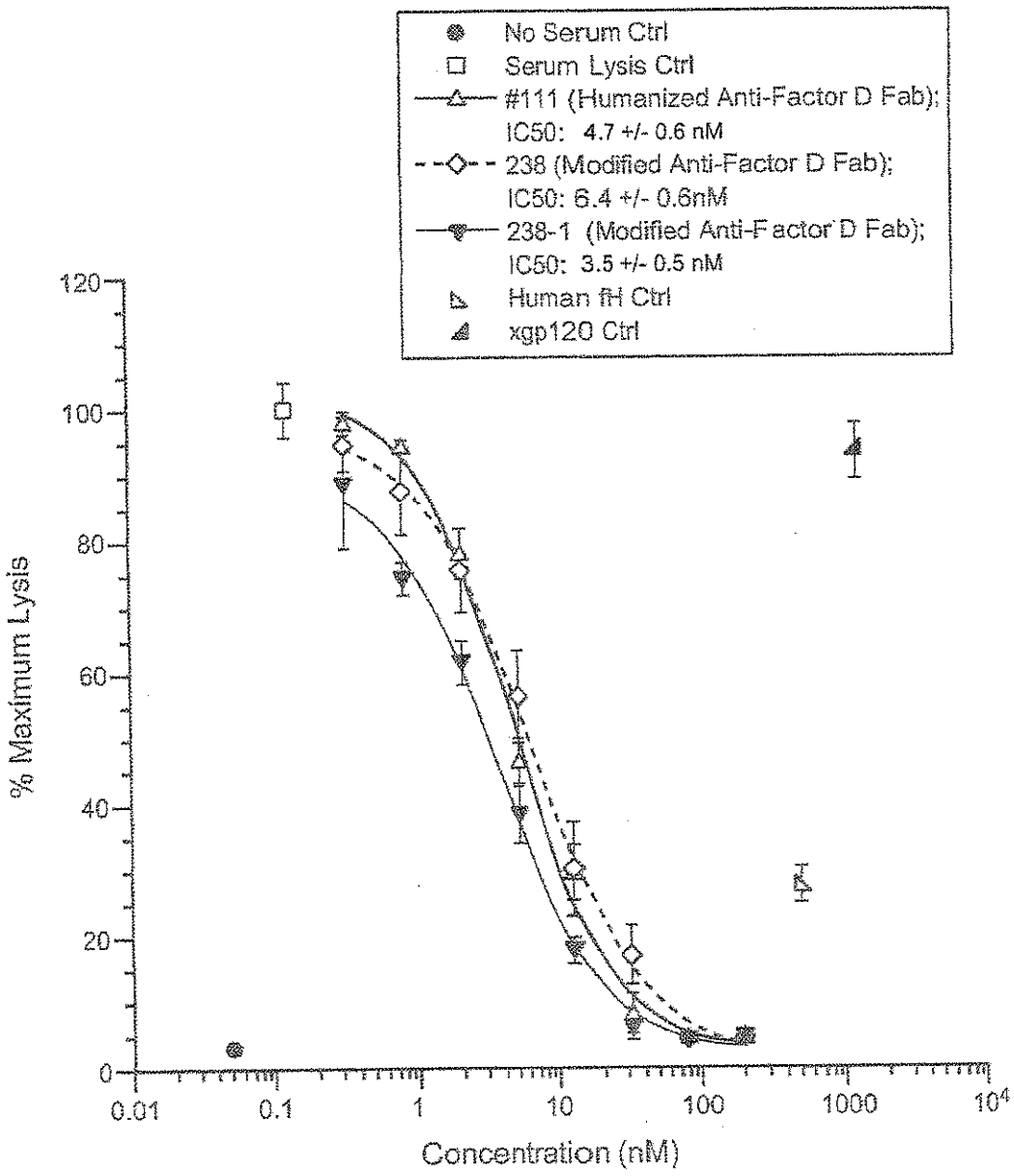
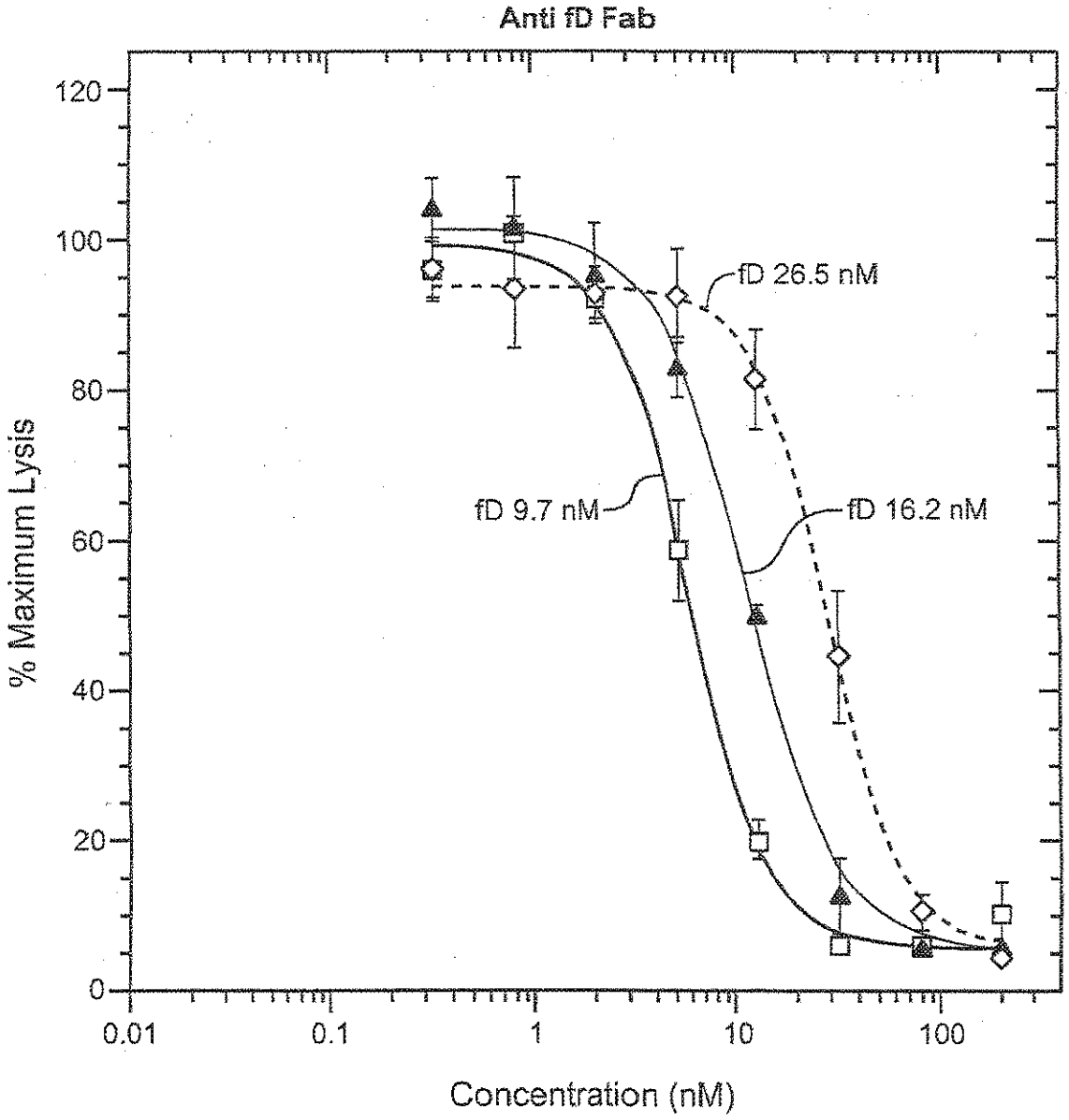

No Serum Ctrl
Serum Lysis Ctrl
#111 (Humanized Anti-Factor D Fab);
IC50: 4.7 +/- 0.6 nM
238 (Modified Anti-Factor D Fab);
IC50: 6.4 +/- 0.6nM
238-1 (Modified Anti-Factor D Fab);
IC50: 3.5 +/- 0.5 nM
Human fH Ctrl
xgp120 Ctrl
% Maximum Lysis
120
100
80
60
40
20
0
0.01
0.1
1
10
100
1000
10^4
Concentration (nM)

FIG. 11



Anti fD Fab	Factor D Concentration (nM)		
	9.7	16.2	26.5
IC50 (nM)	4.4	10.2	23.9
IC90 (nM)	14.0	38.0	72.6

FIG. 12

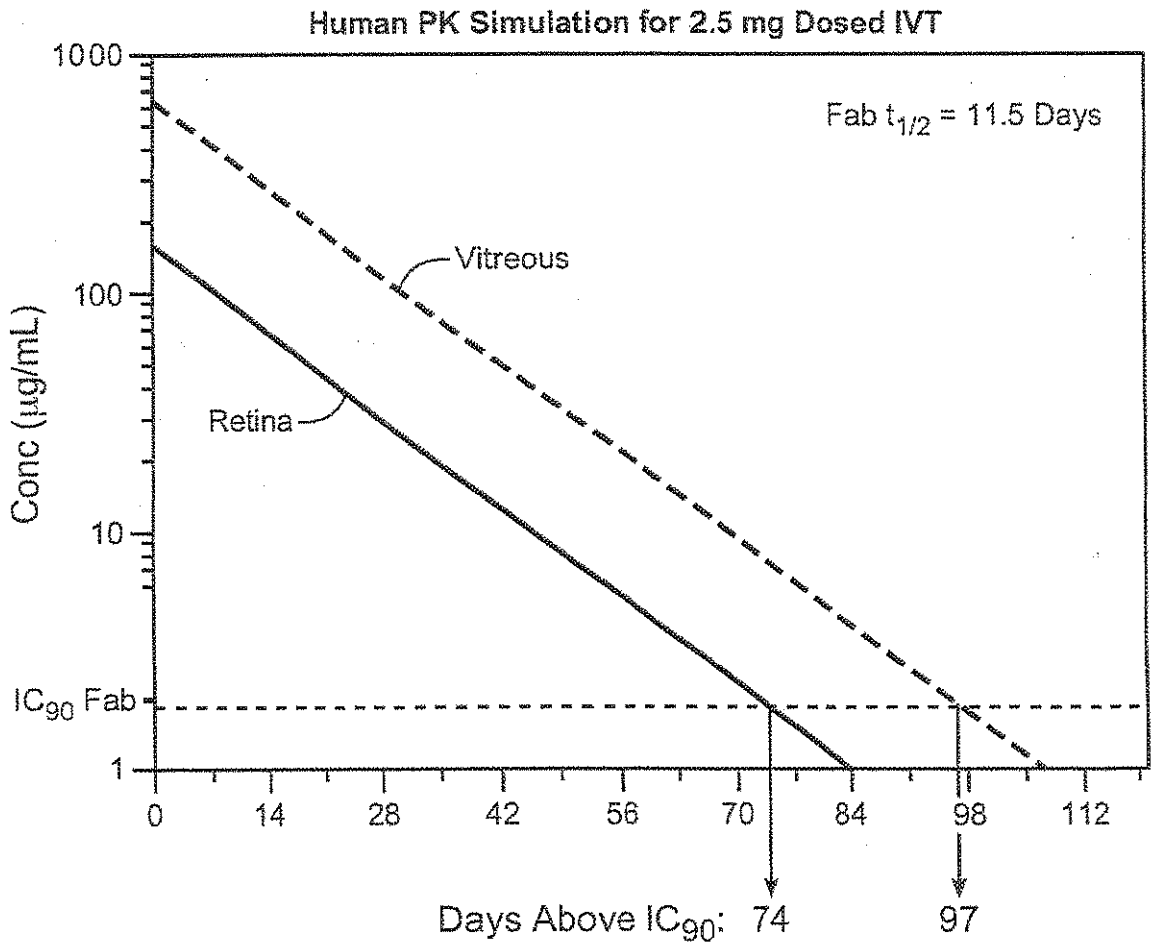

Human PK Simulation for 2.5 mg Dosed IVT
Fab $t_{1/2}$ = 11.5 Days
Vitreous
Retina
Conc (µg/mL)
1000
100
10
1
IC_{90} Fab
0
14
28
42
56
70
84
98
112
Days Above IC_{90}: 74
97

FIG. 13