

Recombineered BAC Vectors to add Polymorphic V-regions to the Mouse Genome

1. Cassette Exchange — Replace existing V-regions

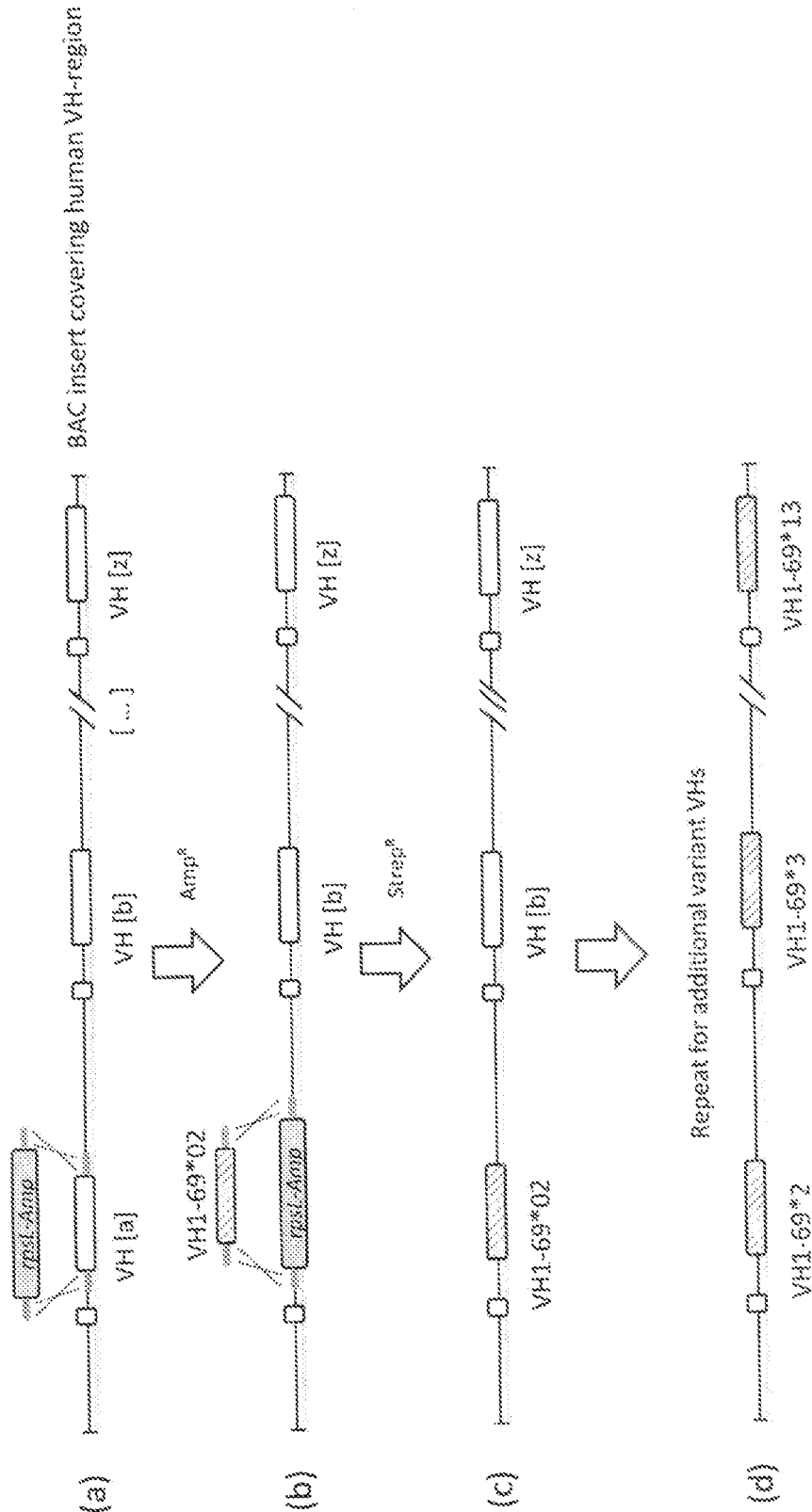


Figure 1

Recombineered BAC Vectors to add
Heterogeneous V-regions to the Mouse Genome

2. Insertion of V-regions into Heterologous Genomic DNA

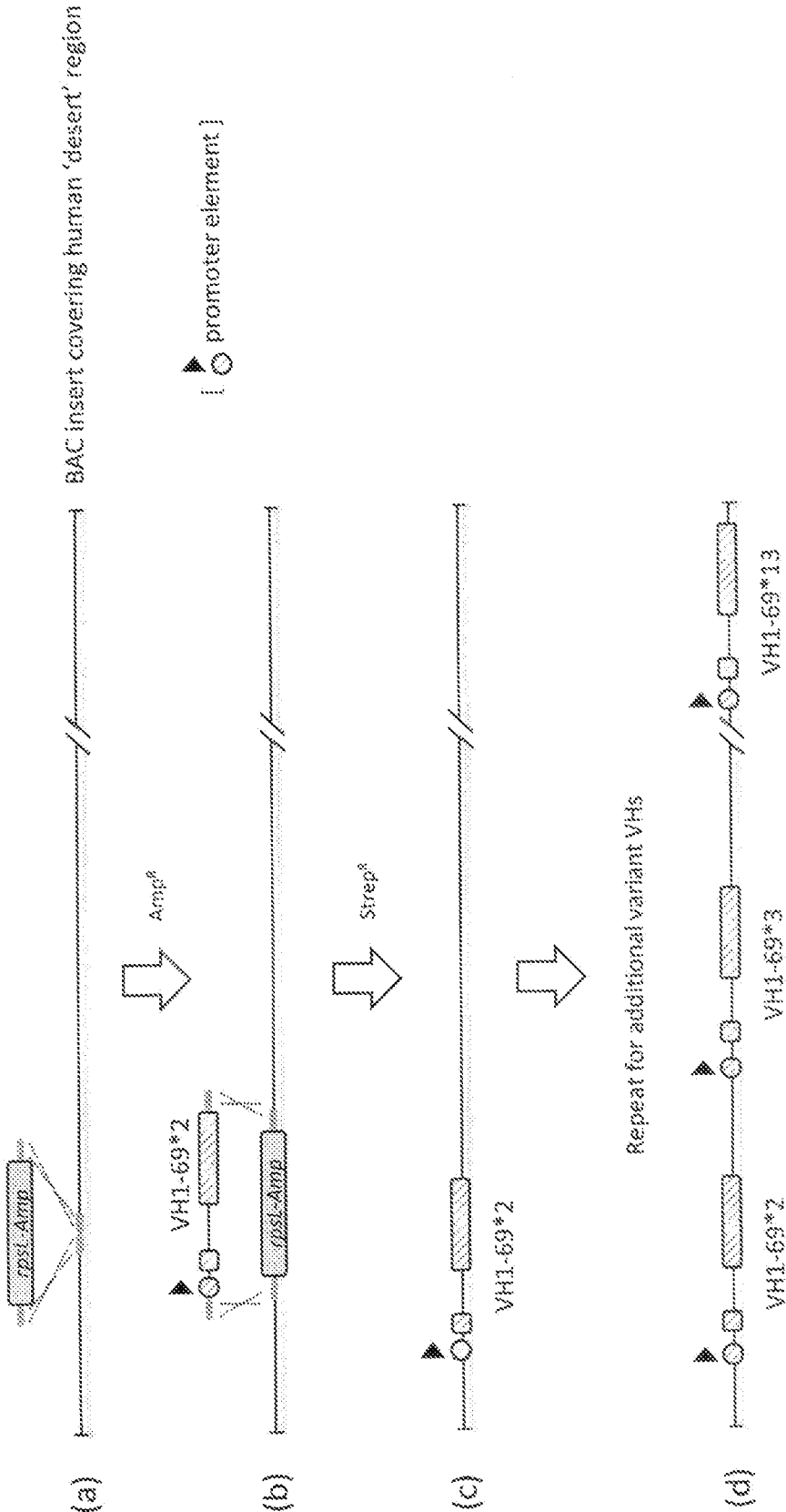


Figure 2

Recombineered BAC Vectors to add Heterogeneous V-regions to the Mouse Genome

3. Single Strand Nucleotide Changes

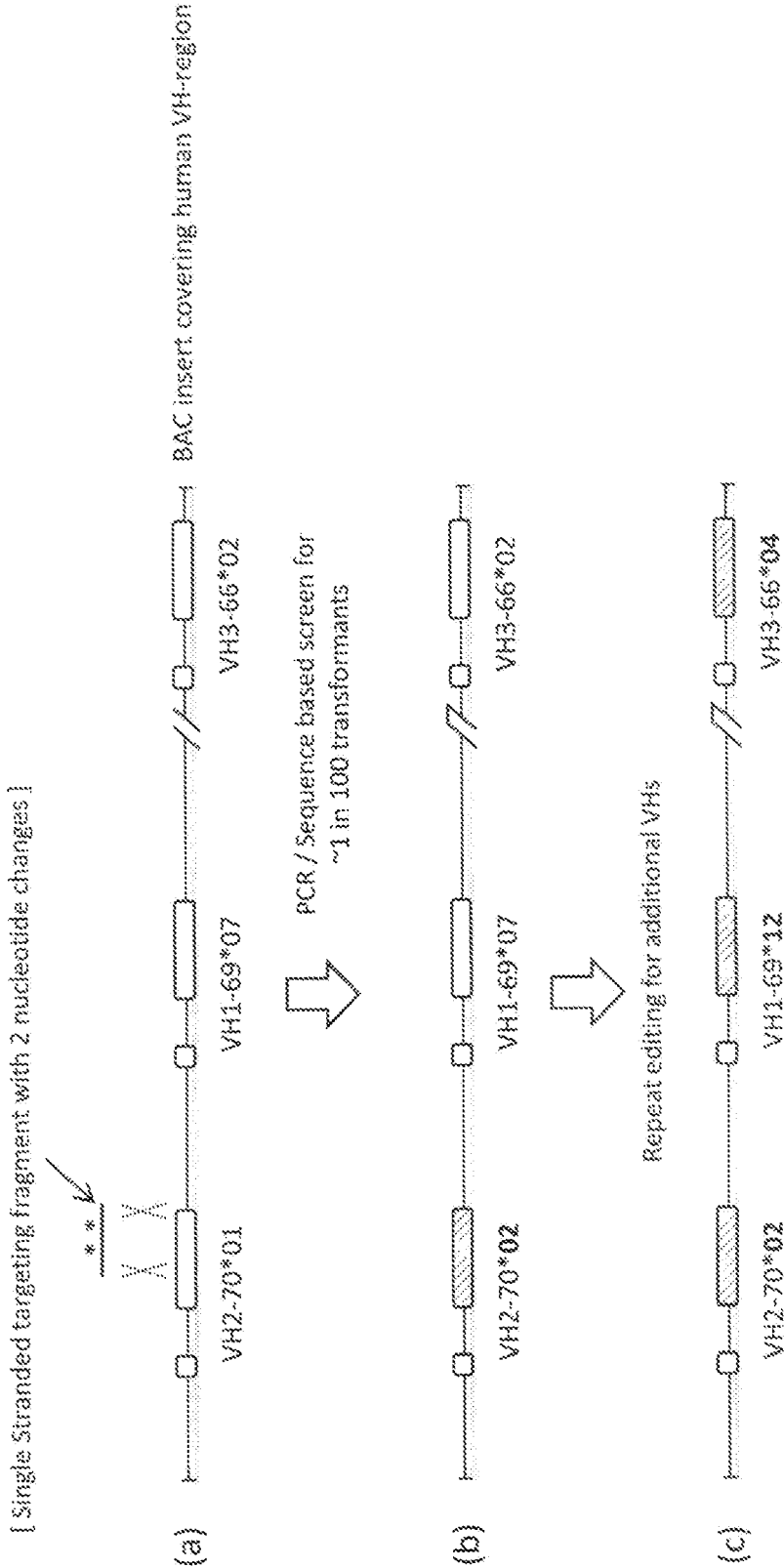
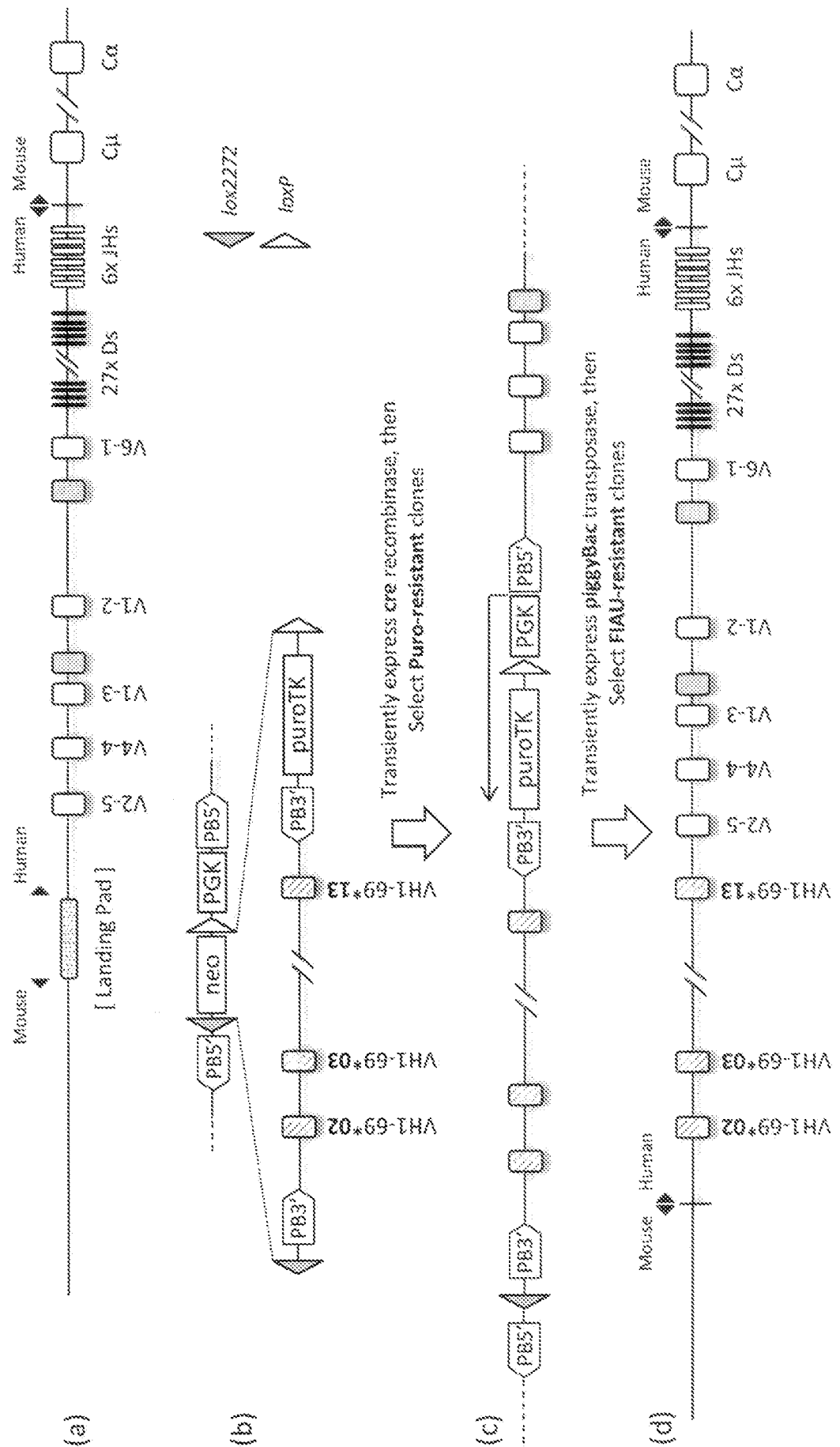


Figure 3

Adding Polymorphic V-regions to the Genome using SRMCE of Modified BACs

1. Insertion at a 'Landing Pad' site during SRMCE



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	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
L22582 ,IGHV1-69*01, hv1051	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	K	E	G	S	S	V	K	V	S	C	K	A	S
	CAG	GTC	CAG	CTG	GTC	CAG	TCT	GAG	GCT	...	GAG	GTC	AAG	AAG	CCT	GAG	TCC	TGG	GTC	AAG	GTC	TCC	TTC	AAG	GCT	TCT
Z17506 ,IGHV1-69*02, YIGH6(YAC7)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
X92340 ,IGHV1-69*03, 57QHA8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N83132 ,IGHV1-69*04, hv1263	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
X67905 ,IGHV1-69*05, BR.VH1.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
L22583 ,IGHV1-69*06, hv1051K	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z29978 ,IGHV1-69*07, OA-2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z14309 ,IGHV1-69*08	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z14307 ,IGHV1-69*09	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z14300 ,IGHV1-69*10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z14296 ,IGHV1-69*11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z14301 ,IGHV1-69*12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z14210 ,IGHV1-69*13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Alignment of 13 IGHV1-69 alleles showing the variable (V) coding region only. Nucleotides that differ from VH1-69 allele *01 are indicated at the appropriate position whereas identical nucleotides are marked with a dash. Where nucleotide changes result in amino acid differences, the encoded amino acid is shown above the corresponding triplet. Boxed regions correspond to CDR1, CDR2 and CDR3 as indicated.

Figure 5 (part 1 of 4)

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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
	G	G	G	F	S	S	Y	A					I	S	W	V	E	Q	A	P	G	Q	E	L	S	R	N
L22582 ,IGHV1-69*01, hv1051	GGA	GGC	ACC	ATC	AGC	ACC	TAT	GCT					ATC	ASC	TGG	GTG	CGA	CAG	GCC	CCG	GGA	CAA	GGG	GTT	GAG	TGG	ATG
227506 ,IGHV1-69*02, YIGH61YAC7								A																			
X92340 ,IGHV1-69*03, 57GTA8																											
M83132 ,IGHV1-69*04, hv1263																											
X67905 ,IGHV1-69*05, RR.VH1.2																											
L22583 ,IGHV1-69*06, hv1051K																											
Z39978 ,IGHV1-69*07, DA-2																											
Z14309 ,IGHV1-69*08																											
Z14307 ,IGHV1-69*09																											
Z14300 ,IGHV1-69*10																											
Z14296 ,IGHV1-69*11																											
Z14301 ,IGHV1-69*12																											
Z14214 ,IGHV1-69*13																											

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Figure 5 (part 2 of 4)

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	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
	G	G	I	I	P	I	F	G	T	A			N	Y	A	Q	K	F	Q		G	R	V	T	I	T	A
L22582 ,IGHV1-69*01, hV1051	GGG	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC	ATC
	R																										
227506 ,IGHV1-69*02, VIGH6(IAC7	A																										
X92340 ,IGHV1-69*03, 5782A8																											
M83132 ,IGHV1-69*04, hV1263																											
X67905 ,IGHV1-69*05, FR.VH1.2																											
L22583 ,IGHV1-69*06, hV1051K																											
Z59979 ,IGHV1-69*07, OA-2																											
Z14309 ,IGHV1-69*08																											
Z14307 ,IGHV1-69*09																											
Z14300 ,IGHV1-69*10																											
Z14296 ,IGHV1-69*11																											
Z14301 ,IGHV1-69*12																											
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Figure 5 (part 3 of 4)

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	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	
	D	E	S	T	S	T	A	Y	M	E	L	S	S	L	R	S	E	D	T	A	Y	Y	C	A	R		
L22582	GAC	GAA	TCC	ACG	AGC	ACA	GCC	TAC	ATG	GAG	CTG	AGC	AGC	CTG	AGA	TCT	GAG	GAC	ACG	GCC	CTG	TAT	TAC	TGT	GCG	AGA	GA
	K																										
Z27505	IGHV1-69*02	IGHV6(YAC7)																									
	A																										
X92340	IGHV1-69*03	IGHV2A8																									
	K																										
X93132	IGHV1-69*04	bv1053																									
	A																										
Z67905	IGHV1-69*05	RR.VH1.2																									
	K																										
L22583	IGHV1-69*06	bv1051K																									
	A																										
Z29978	IGHV1-69*07	DA-2																									
	K																										
Z14309	IGHV1-69*08																										
	A																										
Z14307	IGHV1-69*09																										
	K																										
Z14300	IGHV1-69*10																										
	A																										
Z14296	IGHV1-69*11																										
Z14301	IGHV1-69*12																										
Z14214	IGHV1-69*13																										

Alignment of 13 IGHV1-69 alleles showing the variable (V) coding region only. Nucleotides that differ from VH1-69 allele *01 are indicated at the appropriate position whereas identical nucleotides are marked with a dash. Where nucleotide changes result in amino acid differences, the encoded amino acid is shown above the corresponding triplet. Boxed regions correspond to CDR1, CDR2 and CDR3 as indicated.

Figure 5 (part 4 of 4)

Figure 6

