

	CDR H3 Length	VH nt changes (%)	Vκ nt changes (%)	J region sequencealignment																																		
				-	-	G	C	T	G	A	T	A	C	T	C	C	G	C	A	C	C	T	C	C	T													
IGHJ1*01	n/a	n/a	n/a	-	-	G	C	T	G	A	F	A	C	T	T	C	C	A	G	G	G	C	A	C	C	T												
IGHJ2*01	n/a	n/a	n/a	-	-	G	F	A	G	F	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-												
VRC01	12	91/288 (32%)	47/267 (18%)	T	A	C	A	A	T	G	G	G	A	.	.	.	G	.	.	C	.	T	.	.	A	.												
VRC01b	12	94/288 (33%)	47/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	A	.	G	G	.	A	C												
VRC01c	12	101/288 (35%)	49/267 (18%)	T	A	C	A	A	T	G	G	A	A	.	C	.	.	.	A	.											
VRC01d	12	101/288 (35%)	49/267 (18%)	T	A	C	A	A	T	G	G	A	G	.	T	.	C	.	.	A	.											
VRC01e	12	96/288 (33%)	48/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	.												
VRC01f	12	95/288 (33%)	48/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	C	.											
VRC01g	12	97/288 (34%)	47/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	C	.	T	.	.	A	.												
VRC01h	12	98/288 (34%)	49/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	.												
VRC01i	12	98/288 (34%)	49/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	C	.	T												
VRC01j	12	98/288 (34%)	49/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	.												
VRC02	12	92/288 (32%)	51/267 (19%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	.												
NIH45-177	12	100/288 (35%)	48/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	.												
NIH45-243	12	98/288 (34%)	47/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	A	.												
VRC07b	16	94/288 (33%)	48/267 (18%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	T	.	C	.	.	T	.												
VRC07c	16	87/288 (30%)	40/267 (15%)	T	A	C	A	A	T	G	G	A	.	.	.	G	.	G	.	.	C	.	.	A	.													
VRC07d	16	90/288 (31%)	40/267 (15%)	T	T	A	A	A	T	G	G	A	.	.	.	G	.	G	.	T	G	.	C	.	A	C	.											
VRC07e	16	90/288 (31%)	40/267 (15%)	T	T	A	A	A	T	G	G	A	.	.	.	G	A	T	.	.	.	G	.	G	.	A	C	.										
VRC07f	16	90/288 (31%)	40/267 (15%)	T	T	A	A	A	T	G	G	A	.	.	.	G	A	.	.	G	.	T	G	.	C	.	A	C	.									
NIH45-46	16	90/288 (31%)	40/267 (15%)	T	T	A	A	A	T	G	G	A	.	.	.	G	A	.	.	G	.	T	G	.	C	.	A	.										
VRC03	14	86/288 (30%)	53/267 (20%)	T	T	T	C	C	T	G	G	-	-	-	-	A	T	.	.	T	.	.	G	C	.	G	.											
VRC03b	14	84/288 (29%)	53/267 (20%)	T	T	T	C	C	T	G	G	-	-	-	-	A	T	.	.	T	.	.	G	C	.	G	.											
VRC03d	14	83/288 (29%)	43/267 (16%)	T	T	T	C	C	A	C	T	G	-	-	-	-	T	.	T	.	T	.	A	G	C	.	G	.										
VRC03e	14	89/288 (31%)	58/267 (22%)	T	T	T	C	C	T	G	G	-	-	-	-	A	T	.	.	T	.	.	T	.	G	C	.	G	.									
VRC03f	14	88/288 (31%)	52/267 (19%)	T	T	T	C	C	T	G	G	-	-	-	-	A	T	.	.	T	.	.	G	C	.	G	.											
VRC03g	14	89/288 (31%)	54/267 (20%)	T	T	T	C	C	T	G	G	-	-	-	-	A	T	.	.	T	.	.	G	C	.	G	.											
VRC03h	14	98/288 (34%)	60/267 (22%)	T	T	C	T	C	T	G	G	-	-	-	-	T	T	.	.	T	.	.	A	G	C	.	G	.										
VRC03i	14	96/288 (33%)	62/267 (23%)	T	T	C	T	C	T	G	G	-	-	-	-	T	T	.	.	T	.	.	A	G	C	.	G	.										
VRC06	15	88/288 (31%)	47/267 (18%)	T	T	T	C	C	A	T	T	-	-	-	-	G	A	.	T	.	.	T	.	A	G	C	.	G	.									
VRC06B	15	90/288 (31%)	50/267 (19%)	T	T	T	C	C	A	C	T	G	-	-	-	-	A	.	T	.	T	.	.	A	.	C	.	G	.									
VRC06c	15	91/288 (32%)	51/267 (19%)	T	T	T	C	C	A	T	T	-	-	-	-	G	A	.	T	.	.	T	.	A	G	C	.	G	.									
VRC06d	15	89/288 (31%)	46/267 (17%)	T	T	T	C	C	A	C	T	T	-	-	-	-	G	.	T	.	.	T	.	A	G	C	.	G	.									
VRC06e	15	90/288 (31%)	50/267 (19%)	T	T	T	C	C	A	T	T	-	-	-	-	G	A	.	T	.	.	T	.	A	G	C	.	G	.									
VRC06f	15	90/288 (31%)	54/267 (20%)	T	T	T	C	C	A	T	T	-	-	-	-	G	A	.	T	.	.	T	.	A	C	C	.	G	.									
VRC06g	15	97/288 (34%)	54/267 (20%)	T	T	T	C	C	A	T	T	-	-	-	-	G	.	T	T	.	.	T	.	A	G	C	.	G	.									
VRC06h	15	90/288 (31%)	53/267 (20%)	T	T	T	C	C	A	T	T	-	-	-	-	G	A	.	T	.	.	T	.	A	G	C	.	G	.									
VRC08	23	79/288 (27%)	60/267 (22%)	T	T	C	A	A	T	G	G	-	-	-	-	A	G	.	A	.	T	.	G	.	T	C	.					
VRC08c	23	97/288 (34%)	71/267 (27%)	T	T	C	A	A	T	G	G	-	-	-	-	T	G	A	T	.	.	T	.	G	.	C	.	T	.	T	C	.	.	T	C	.		
VRC08d	23	96/288 (33%)	73/267 (27%)	T	T	C	A	A	C	T	G	G	-	-	-	-	T	G	A	A	T	.	.	T	.	G	.	C	.	T	.	T	C	.	.	T	C	.
VRC08e	23	98/288 (34%)	71/267 (27%)	T	T	C	A	A	T	G	G	-	-	-	-	T	G	A	T	C	.	.	T	.	G	.	C	.	T	.	T	C	.	.	T	C	.	