

SUPPLEMENTAL DATA

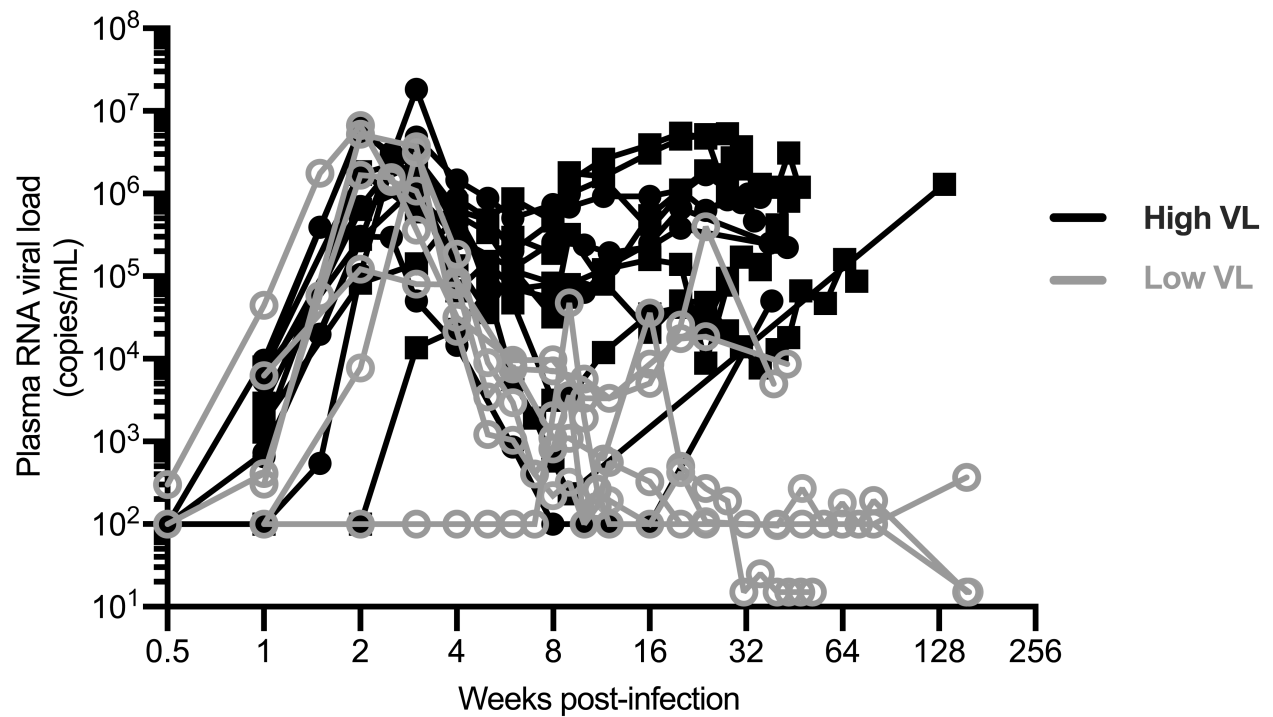


Figure S1. VL trajectories in rhesus macaques with established SIV infection or AIDS.

Plasma burden of viral RNA over time in rhesus macaques with high ($n = 12$) or low VLs ($n = 6$).

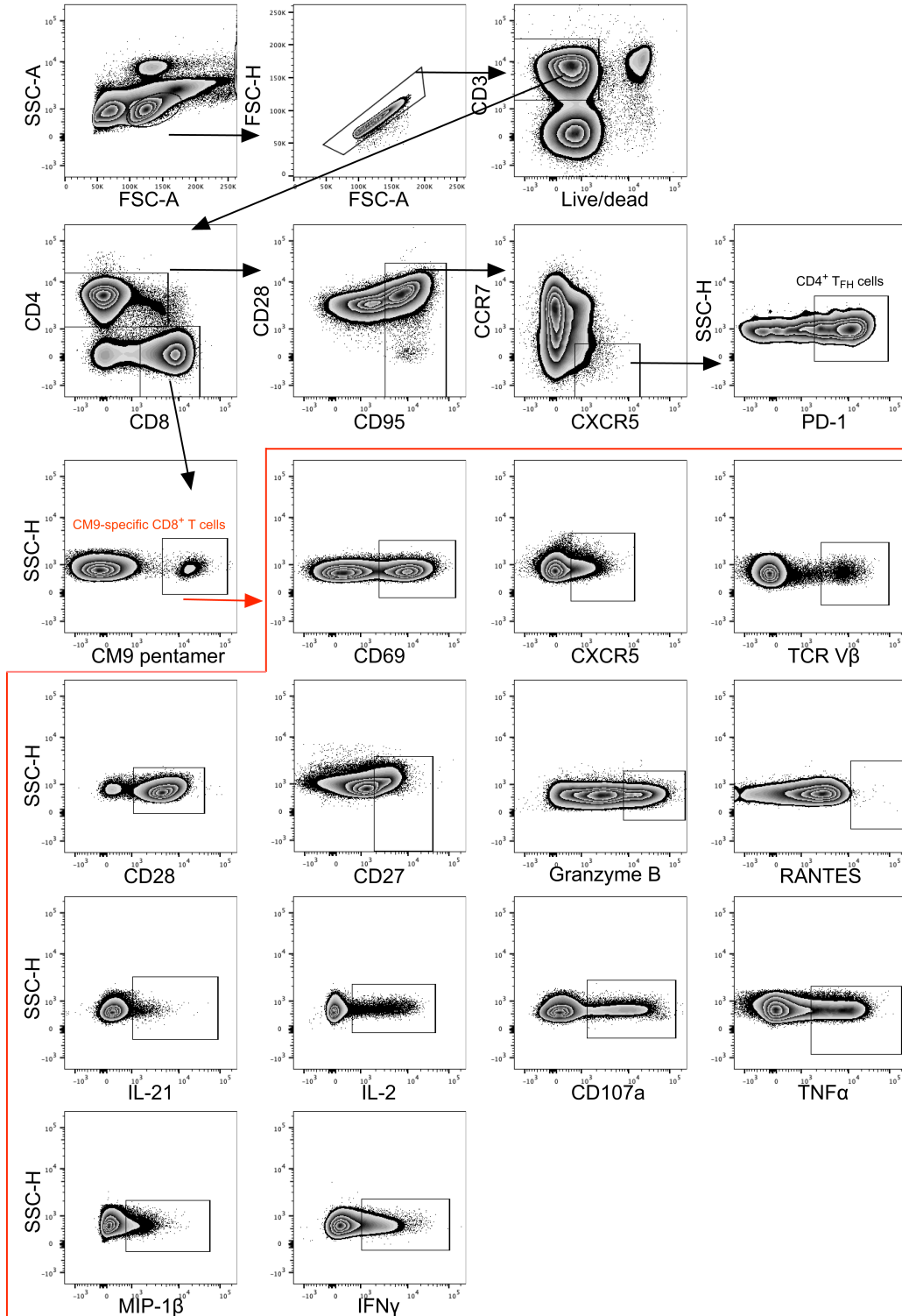


Figure S2. Representative flow cytometric analysis and gating strategy.

Analysis and gating of CD4⁺ T_H cells and pentamer⁺ SIV-specific CD8⁺ T cells.

PBMC				Spleen				ALN/ILN				MLN				Gastrointestinal Tract			
ID	TRBV	CDR3	TRBJ Freq (%)	ID	TRBV	CDR3	TRBJ Freq (%)	ID	TRBV	CDR3	TRBJ Freq (%)	ID	TRBV	CDR3	TRBJ Freq (%)	ID	TRBV	CDR3	TRBJ Freq (%)
				594	7-4	CASSLGVRHSGNTVY	1-3 53	594	15	CASSELGQANNEKLF	1-4 50	594	7-4	CASSLGVRHSGNTVY	1-3 53	594	7-4	CASSLGVRHSGNTVY	1-3 79
					15	CASSELGQANNEKLF	1-4 31		7-4	CASSLGVRHSGNTVY	1-3 21		15	CASSELGQANNEKLF	1-4 16		15	CASSLRGLGKETQY	2-5 10
					13	CASSLGQNSNPQY	1-5 9		13	CASSLGQNSNPQY	1-5 12		20-1	CSARGERPSSNPQY	1-5 9		5-5	CASSLWGSYSYNEQF	2-1 5
					7-4	CASSYKRAGGAGNTVY	1-3 4		23-1	CASSGQYNSNPQY	1-5 5		13	CASSLGQNSNPQY	1-5 7		7-4	CASSHWGDTYNEQF	2-1 3
					20-1	CSARGERPSSNPQY	1-5 2		13	CASSLGSLQKLF	1-4 5		23-1	CASSGQYNSNPQY	1-5 2		6-9	CASSPTGNSNPQY	1-5 3
						Seqs: 45			7-9	CASSLGVGADPQY	2-3 2		5-1	CASSLDRETAQLF	2-2 2				
									19	CASRRSTNEKLF	1-4 2		7-4	CASSYKRAGGAGNTVY	1-3 2				
									27	CASRPPRGQDGEKLF	1-4 2		6-9	CASSKQNSNPQY	1-5 2				
										Seqs: 42			13	CASSLGSLQKLF	1-4 2				
													6-1	CASSAARRGNDYDT	1-2 2				
														Seqs: 43					
760	10-2	CASSGTGNSNPQY	1-5 64	760	10-2	CASSGTGNSNPQY	1-5 76	760	10-2	CASSGTGNSNPQY	1-5 36	760	10-2	CASSGTGNSNPQY	1-5 100	760	6-9	CASSPTGNSNPQY	1-5 90
	23-1	CASSRPGGGTEAF	1-1 11		6-1	CASSEAKRKSNEQY	2-7 14		6-1	CASSEARRITDPQY	2-3 18			Seqs: 9			10-2	CASSGTGNSNPQY	1-5 10
	6-1	CASSEAKRKSNEQY	2-7 7		5-6	CASSSRPGANTEAF	1-1 3		7-4	CASSLATGWTNPQY	1-5 14								
	6-1	CASSRGSFEQY	2-7 7		7-4	CASDTGNQPY	1-5 3		7-8	CASDTGNQPY	1-5 14								
	7-9	CASSLTDWGARRQNTQY	2-4 4		6-1	CASRGYHTDPQY	2-3 3		6-1	CASSEAKRKSNEQY	2-7 7								
	23-1	CASSLWGSYSYNEQF	1-5 4		6-1	CASSEARQSQNTQY	2-4 3		6-1	CASSEQNSNPQY	1-3 4								
		Seqs: 28				Seqs: 37			6-1	CASSEQNSNPQY	1-5 4								
									12-3	CASSFYGSYEQF	2-1 4								
										Seqs: 28									
863	13	CASSFAGNSNPQY	1-5 58	863	13	CASSFAGNSNPQY	1-5 75	863	10-2	CASSGTGNSNPQY	1-5 100	863	13	CASSFAGNSNPQY	1-5 83	863	6-1	CASSTRTGNNNEQF	2-1 100
	14	CASSPWTTGSLNEQF	2-1 13		13	CASSFAGNSKAPV	1-5 18			Seqs: 44			6-1	CASSTRTGNNNEQF	2-1 11				
	7-4	CASSLGIGDDQPY	1-5 11		13	CASSLLEYSNPQY	1-5 7						4-1	CASSQDPHRRWGLRQETQY	2-5 4				
	6-1	CASSAAGNSNPQY	1-5 7			Seqs: 44							11-3	CASSRQGGFGSGNTVY	1-3 2				
	6-1	CASSEANRADSDYT	1-2 4											Seqs: 46					
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	5-4	CASSWQGGQPY	1-5 2																
	2	CASRTLQGLYDT	1-2 2																
		Seqs: 45																	
867	28	CASSLQGLVEKLF	1-4 52	867	23-1	CASSGQYNSNPQY	1-5 32	867	23-1	CASSGQYNSNPQY	1-5 69	867	23-1	CASSGQYNSNPQY	1-5 57	867	23-1	CASSGQYNSNPQY	1-5 47
	23-1	CASSQGGYNSNPQY	1-5 33		13	CASNQGAVLNSNPQY	1-5 21		11-3	CASSLQGGDDPY	2-3 11		11-3	CASSLQGGDDPY	1-6 17		11-3	CASSLQGGDDPY	1-6 14
	23-1	CASSQKRVNSPLH	1-6 15		11-3	CASSPTGTTNEKLF	1-4 18		9	CASSTGRQNTVY	1-3 6		4-1	CASSQDGEQPY	1-5 11		9	CASSLQGGSEKLF	1-4 14
		Seqs: 27			11-3	CASSLQGGDDPY	1-6 8		5-5	CASRTGTGTGNTVY	1-5 3		6-1	CASSEGFLGTGSLYNSNPQY	1-5 7		16	CASSREQGLV	1-4 7
					3-1	CASSPRLGGACQNTQY	2-4 5		5-5	CASRTGTGTGNTVY	1-3 3		6-1	CASSNIRATNEKLF	1-4 4		7-4	CASSSGGTYNSPLH	1-6 7
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					6-9	CASSYSGSNGNPQY	1-5 3		2	CASSDLDRDWGDTAQLF	2-2 3			Seqs: 46			5-1	CASSYKGLVGQPY	2-7 2
					23-1	CASSQKRVNSPLH	1-6 3			Seqs: 35							6-9	CASSYSGSNGNPQY	1-5 2
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						Seqs: 38													
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	2	CASSRADPNSYEQY	2-7 16		7-4	CASSRADPNSYEQY	2-7 11		12-3	CASSPTGSNEKLF	1-4 17		6-9	CASSPTGSNEKLF	1-4 10		10-2	CASSPVEQY	2-7 12
	2	CASSPYEQY	2-7 14		14	CASSQRGARDYDT	1-2 7		2	CASSRADPNSYEQY	2-7 9		12-3	CASSFARAPQETQY	2-5 10		6-1	CASSSEAGNSNPQY	1-5 12
	4-1	CASSQAGTGNSYEQY	2-7 11		7-4	CASSPGTGVGIGQPY	2-7 7		6-1	CASSGQNSNPQY	1-5 6		6-1	CASSALRQKDDYT	1-2 8		14	CASSQRGARDYDT	1-2 8
	2	CASRDGRARNTVY	1-3 11		6-9	CASSAGLGTHKNTQY	2-4 7		6-9	CASSAGLGTHKNTQY	2-4 3		10-2	CASSVAGNSNPQY	1-5 8		27	CASSGGGVYEQY	2-7 8
	7-4	CASSLDLRSVDPQY	2-3 8		7-4	CASSPGLGGAKDPQY	2-3 4		7-4	CASSAGLGTHKNTQY	2-4 3		7-4	CASSPQNEQF	2-1 5		6-9	CASSYVANSNPQY	1-5 4
	5-5	CASSVNRDEQY	2-7 3		7-4	CASSLGREAF	1-1 4		10-2	CASSVAGNSNPQY	1-5 3		15	CASSKERPSGTQY	2-4 5		6-1	CASSSEGERGTPQY	2-3 4
	13	CASSLRQYNSNPQY	1-5 3		7-4	CASSLGREAF	1-1 4		7-4	CASSLAGIGVSNQPY	2-7 3		7-4	CASSLDGRNVDYT	1-2 5		10-2	CASSSEAGNSNPQY	1-5 4
	7-4	CASSFDGNSYEQY	2-7 3		10-2	CASSERHSNTPQY	2-3 4		10-2	CASSGQNSNPQY	1-5 3		14	CASSQELVNSPLH	1-6 3		6-9	CASSYETGGLNTPQY	1-5 4
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	13	CASSGGLGPSQNTQY	2-4 9		27	CASSPTDNLNPQY	1-5 35		6-1	CASSADGNSNPQY	1-5 18		20-1	CASNIAPPNGSNTQY	2-4 10		6-1	CASSRGQGGQPY	1-5 28
	6-9	CASSYAGNSNPQY	1-5 9		6-1	CASSDGGNSNPQY	1-5 6		6-9	CASSKAGNSNPQY	1-5 11		27	CASSLRGTEDYDT	1-2 5		6-9	CASSKAGNSNPQY	1-5 19
	6-1	CASSGQNSNPQY	1-5 9		13	CASSFGLGPSQNTQY	2-4 6		6-1	CASSEQNSQNTQY	2-4 8		6-9	CASSYAGNSNPQY	1-5 5				
	23-1	CASSQKRVNSPLH	1-6 6		6-1	CASSSEAGNSNPQY	1-5 3		6-1	CASSSEAGNSNPQY	1-5 3		6-1	CASSLRDRKDPQY	2-3 5				
	29-1	CSVVNGEYQF	2-1 6		10-2	CASSSEAGNSNPQY	1-5 3		6-1	CASSGQNSNPQY	1-5 3		27	CASSLDNRNSGASVLT	2-6 5				
	5-5	CASSLASVQVVNTAF	1-1 3		6-9	CASSKAGNSNPQY	1-5 3		6-9	CASSDGGNSNPQY	1-5 3		6-1	CASSSEAGNSNPQY	1-5 5				
	27	CASSLDNRNSGASVLT	2-6 3		11-3	CASSRRODPY	1-5 3		27	CASSPTDNLNPQY	1-5 3		6-1	CASSSEAGNSNPQY	2-3 3				
	6-1	CASSEAMRGTDQY	2-3 3		5-5	CASSLVGQADPQY	2-3 3			Seqs: 38			6-1	CASSEAMRGTDQY	2-3 3				
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	6-9	CASSGQNSNPQY	1-5 3																
	6-1	CASSAQNSNPQY	1-5 3																
	6-1	CASSSEAGNSNPQY	1-5 3																
		Seqs: 35																	

Figure S4. Clonotypic architecture of CM9-specific CD8⁺ T cell populations in rhesus macaques with low VLs.

CDR3 β amino acid sequences, *TRBV* and *TRBJ* gene use, and relative frequency of CD8⁺ T cell clonotypes specific for CM9. Colored boxes in the CDR3 column indicate public clonotypes. Colored boxes in the frequency column indicate shared clonotypes across tissues within individual rhesus macaques.

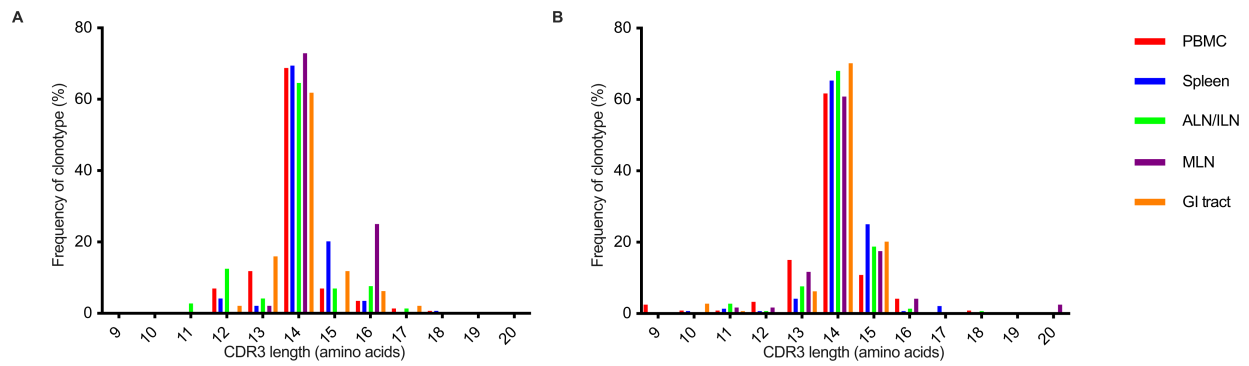


Figure S5. Distribution of CDR3 β lengths across CM9-specific CD8⁺ T cell populations.

(A) CDR3 β lengths in rhesus macaques with high VLs ($n = 6$). **(B)** CDR3 β lengths in rhesus macaques with low VLs ($n = 6$).

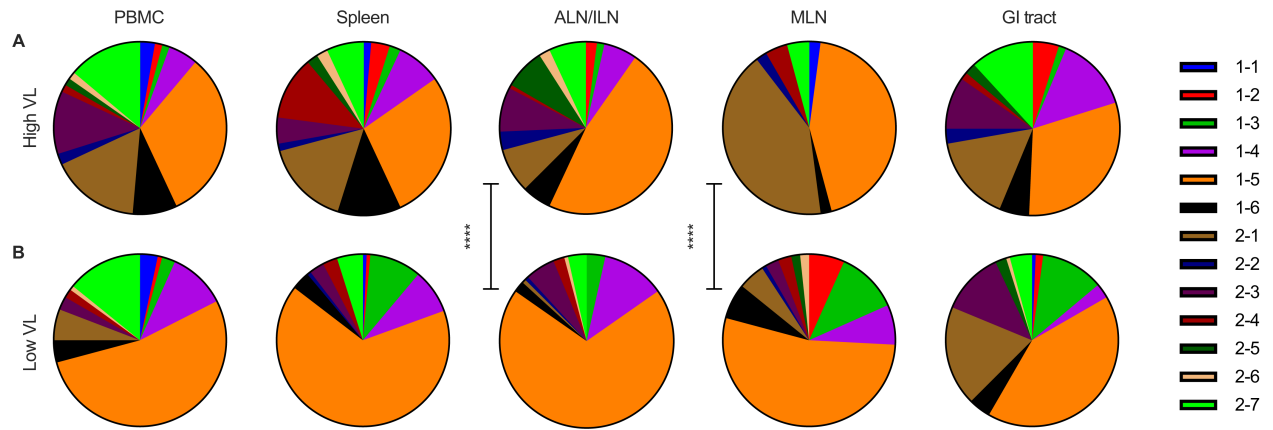


Figure S6. *TRBJ* gene use among CM9-specific CD8⁺ T cell populations.

(A) *TRBJ* gene use in rhesus macaques with high VLs (n = 6). **(B)** *TRBJ* gene use in rhesus macaques with low VLs (n = 6). Significance was determined using the permutation test in SPICE.

**** $P < 0.0001$.