

Subject Number	Visit	INF Days	Fiebig Stage	CD4 counts/ul	CD8 counts/ul	VL copies/ml	Age	Sex	HLA-A	HLA-B	Clade	CMV Specificities	Detected HIV Specificities	Non-Detected HIV Specificities
AEI 001	V1	25	IV	357	4029	5773404	45	M	A01/A24	B08/B18	B		A24RW8 RYPLTFGW	B8FL8 FLKEKGGL
AEI 002	V1	29	IV	370	930	1463020	24	M	A01/A24	B07/B27	B	B7TM10	A24RW8 RYPLTFGW	B7TL10 TPGPGIRYPL
AEI 002	V3	61	V	660	2770	293776	24	M	A01/A24	B07/B27	B	B7TM10	A24RW8	B7TL10
AEI 004	V1	36	IV	385	1858	503740	53	M	NA	NA	B	B7TM10	A2FK10 ND	A2SL9 ND
AEI 004	V2	51	V	309	1567	177454	53	M	NA	NA	B	B7TM10	A2FK10	
AEI 007	L1	89	V	267	728	120107	28	M	A02/A02	B07/B44	B		B7TL10 TPGPGVRYPL	A2SL9 ND
AEI 008	L1	59	V	557	1313	27766	48	M	A03/A26	B08/B27	B		A3RK9 RLRPGGKKK	B8FL8 ND
AEI 011	L	50	V	594	692	123026	42	M	A01/A01	B08/B08	B		B8FL8 ND	
AEI 013	V1	32	IV	460	3450	2278640	30	F	A02/A32	B18/B35	B		A2SL9 SLFNTVATL*	A2FK10 FLGKIWPSYK*
AEI 013	V2	46	V	680	2520	215942	30	F	A02/A32	B18/B35	B		A2SL9	A2FK10
AEI 013	V3	59	V	600	1460	349556	30	F	A02/A32	B18/B35	B		A2SL9	A2FK10
AEI 022	V1	53	V	645	2887	1441990	40	M	A02/A32	B08/B35	B		B8FL8 ND	A2SL9 ND
AEI 023	V1	63	V	360	710	143747	33	M	A01/A02	B08/B50	B		B8FL8 FLKEKGGL	A2SL9 ND
AEI 027	L	67	V	620	1600	38102	NA	NA	NA	NA	NA		B8FL8 FLKEKGGL	A2SL9 ND
AEI 036	V1	59	V	560	520	6163	51	M	A02/A11	B14/B27	B	A2NV9		A2SL9 ND
AEI 038	V1	46	V	620	690	92407	22	M	A03/A24	B35/B51	B		A3RK9 RLRPGGKKK*	A24RW8 ND
AEI 038	V2	63	V	920	800	66025	23	M	A03/A24	B35/B51	B		A3RK9	A3QK10 ND
AEI 039	L	75	V	730	1450	67190	48	M	A01/A23	B49/B58	B		A23RF10 RYPLTFGWCF	
AEI 040	V1	58	V	500	960	18901	38	M	A02/A29	B40/B51	B		A2FK10 FLGKIWPSHK	A2SL9 SLFNAVAVL
AEI 041	V1	49	V	560	1100	75323	32	M	A02/A02	B07/B08	B	A2NV9	B8FL8 FLREKGGGL	B7TL10 TPGPGTRYPL
AEI 041	L1	58	V	475	640	56838	32	M	A02/A02	B07/B08	B	A2NV9	B8FL8	A2SL9 SLYNTVAVL
AEI 049	V1	32	IV	250	3870	22521600	29	M	A01/A02	B08/B51	B	A2NV9	A2FK10 FLGKIWPSHK	A2SL9 SLFNAVAVL
AEI 049	V2	53	V	310	5390	1198340	29	M	A01/A02	B08/B51	B	A2NV9	A2FK10	A2SL9 ND
AEI 063	L	78	V	569	580	41145	56	M	A01/A02	B08/B15	B		B8FL8 FLKEKGGL	B8GI9 GEIYKRWII
AEI 072	L	71	V	340	560	76626	NA	NA	NA	NA	NA		A23RF10 RYPLCFGW	A2SL9 ND
AEI 313	V1	44	V	434	1281	2082323	56	M	A01/A02	B37/B50	B		A2FK10 ND	A2SL9 ND
AEI 333	V1	50	V	586	2149	324829	40	M	A02/A03	B14/B51	B	A2NV9	A3RK9 RLRPGGKKK*	A2SL9 SLFNAVAVL
AEI 333	V2	61	V	374	1834	604410	40	M	A02/A03	B14/B51	B	A2NV9	A3RK9	A2FK10 ND
AEI 341	L	54	V	348	242	53703	57	M	A11/A24	B15/B35	AE		A24RW8 RYPLTFGW	
AEI 342	V1	50	V	362	1034	324829	45	M	A01/A33	B08/B14	B		B8GI9 GEIYKRWII	B8FL8 FLKEKGGL
AEI 352	V1	65	V	672	529	12639	23	M	A02/A03	B18/B51	B	A2NV9	A3RK9 ND	A2SL9 ND
AEI 365	V1	45	V	257	1007	3917615	43	M	A02/A29	B18/B44	B	A2NV9	A2FK10 ND	A2SL9 ND
AEI 1868	V1	51	V	320	1140	284415	38	M	A02/A02	B08/B13	B	A2NV9	B8FL8 ND	A2SL9 ND
AEI 1868	V2	64	V	350	1290	224972	38	M	A02/A02	B08/B13	B	A2NV9	B8FL8	
AEI 03001	V1	62	V	350	1458	45142	42	M	A2/A66	B14/B56	B	A2NV9	A2FK10 ND	A2SL9 ND
AEI 03002	V1	48	V	540	1810	523540	42	M	A03/A23	B15/B44	B		A3RK9 RLRPGGKKK*	A23RF10 ND
AEI 003622	V2	56	V	640	1220	555484	49	M	A11/A23	B07/B35	B	B7TM10		B7TL10 TPGPGIRYPL
AEI 31511	V1	45	V	500	800	460370	43	M	A03/A32	B35/B39	B		A3RK9 RLRPGGKKK	A23RF10 RYPLTFGW
AEI 43692	V1	60	V	690	1450	2309770	45	M	NA	NA	B		B8FL8 FLREKGGGL	B8GI9 GEIYKRWII
AEI 70941	V1	42	V	340	2330	4385500	30	M	NA	NA	B		B8FL8 ND	
AEI 101005	V1	34	IV	497	995	38845	39	M	NA	NA	B		A3RK9 ND	A3QK10 ND
AEI 5242715	V1	57	V	331	1287	218813	18	M	A03/A11	B08/B15	B		B8FL8 FLKEKGGL	A3RK9 ND
AEI DR01	V2	35	IV	690	1910	1131551	36	M	A29/A29	B07/B44	B		B7TL10 ND	
AEI DR03	V1	66	V	ND	ND	101238	42	M	A02/A02	B18/B44	B	A2NV9	A2FK10 ND	A2SL9 ND

* Epitope sequences obtained by clonal sequencing

Supplementary Table 1: Subjects characteristics in acute/early HIV infection. Number of days post-infection (INF days), Fiebig stage, peripheral blood CD4 and CD8 T cell counts, HIV plasma viral load, age, sex, HLA-A and-B haplotypes, virus clade, and CMV and HIV-specific CD8 T cell responses studied are depicted for each subject with their corresponding autologous sequence. The autologous sequences of the potential epitopes based on the HLA typing that were not detected by tetramer staining are also depicted. Epitope sequences highlighted in purple represent escape variants in a non-anchored residue, and epitope sequences highlighted in orange represent escape variants in an anchored residue. HIV specificities highlighted in pink were used for the gene expression analyses.

Subject	Number	Visit	CD4 counts/ul	CD8 counts/ul	Viral load copies/ml	Age	Sex	HLA-A	HLA-B	Clade	CMV Specificities	Detected HIV Specificities	Non-Detected HIV Specificities
CI 008	L2	444	1546	30614	49	M	A03/A26	B08/B27	B			A3RK9 RLRPGGKKK	B8FL8 ND
CI 013	V13	870	1260	3606	31	F	A02/A32	B18/B35	B	A2NV9		A2SL9 SLFNTVATL*	A2FK10 ND
CI 021	L	590	1115	97044	29	M	A02/A30	B44/B50	B	A2NV9		A2FK10 FLGKIWPSHK	A2SL9 SLYNTVATL
CI 022	V8	366	1080	786410	40	M	A02/A32	B08/B35	B			B8FL8 ND	A2SL9 ND A2FK10 ND
CI 025	L2	332	266	275829	42	M	A32/A34	B08/B15	B			B8FL8 FLKEKGGL	
CI 026	L4	450	898	268417	38	M	A03/A29	B07/B44	B	B7TM10		A3RK9 RLRPGGKKK B7TL10 TPGPGVRYFL A3QK10 QVPLRPMTYK	
CI 034	V13	490	1200	61085	47	M	A02/A02	B08/B44	B			A2FK10 ND B8FL8 ND	A2SL9 ND
CI 037	L2	870	1055	10019	49	M	A03/A68	B07/B14	B	A2NV9		A3RK9 RLRPGGKKR	B7TL10 ND
CI 038	V11	290	290	61414	23	M	A03/A24	B35/B51	B			A3RK9 RLRPGGKKQ*	A24RW8 ND
CI 038	V13	250	320	29242	23	M	A03/A24	B35/B51	B			A3RK9	
CI 039	L	560	590	117221	49	M	A01/A23	B49/B58	B			A23RF10 RYPLTFGWYCY	
CI 040	L2	345	511	71910	39	M	A02/A29	B40/B51	B			A2FK10 ND	A2SL9 ND
CI 040	V13	300	420	58596	39	M	A02/A29	B40/B51	B			A2FK10	
CI 041	L3	296	717	174776	33	M	A02/A02	B07/B08	B	A2NV9 B7TM10		B8FL8 FLKEKGGL* B8GI9 GEVYKKWII	B7TL10 TPGPGTRYPL A2SL9 ND A2FK10 ND
CI 041	V13	410	800	71032	33	M	A02/A02	B07/B08	B	A2NV9 B7TM10		B8FL8 B8GI9	
CI 067	L	657	544	19041	NA	NA	NA	NA	NA	B7TM10			B7TL10 TPGPGVRYPL
CI 325	L	345	931	318611	43	M	A25/A25	B07/B39	B	B7TM10			B7TL10 TPGPGTRYPL
CI 333	V9	194	654	31116	41	M	A02/A03	B14/B51	B	A2NV9		A3RK9 RLRPGGKKN* A2FK10 ND	A2SL9 SLFNAVAVL
CI 352	V12	275	460	47805	24	M	A02/A03	B18/B51	B	A2NV9		A3RK9 ND A2SL9 ND	A2FK10 ND
CI 03002	V7	640	1150	52071	42	M	A03/A23	B15/B44	B			A3RK9 RLRPGGKKK* A23RF10 ND	
CI 03006	L	522	366	2021	22	M	A03/A68	B18/B57	B			A3RK9 ND	
CI 03025	L	540	880	21379	40	M	A02/A29	B27/B45	B	A2NV9			A2SL9 SLYNTVAVL A2FK10 FLGKIWPSHK
CI 42117	L	704	1081	68412	40	M	A02/A11	B07/B08	B	A2NV9 B7TM10		B7TL10 ND B8FL8 ND A2FK10 ND	A2SL9 ND
CI 71748	L2	506	948	2959	23	M	A02/A32	B15/B15	B	A2NV9		A2FK10 FLGKIWPSHK	A2SL9 SLYNTVAVL
CI 194	L	234	268	33113	NA	M	A02/A24	B18/B44	NA	A2NV9		A2FK10 ND	A2SL9 ND A24RW8 ND
CI 192	L	368	1320	34363	NA	M	A23/A30	B07/B15	NA	B7TM10		B7TL10 ND	A23RF10 ND

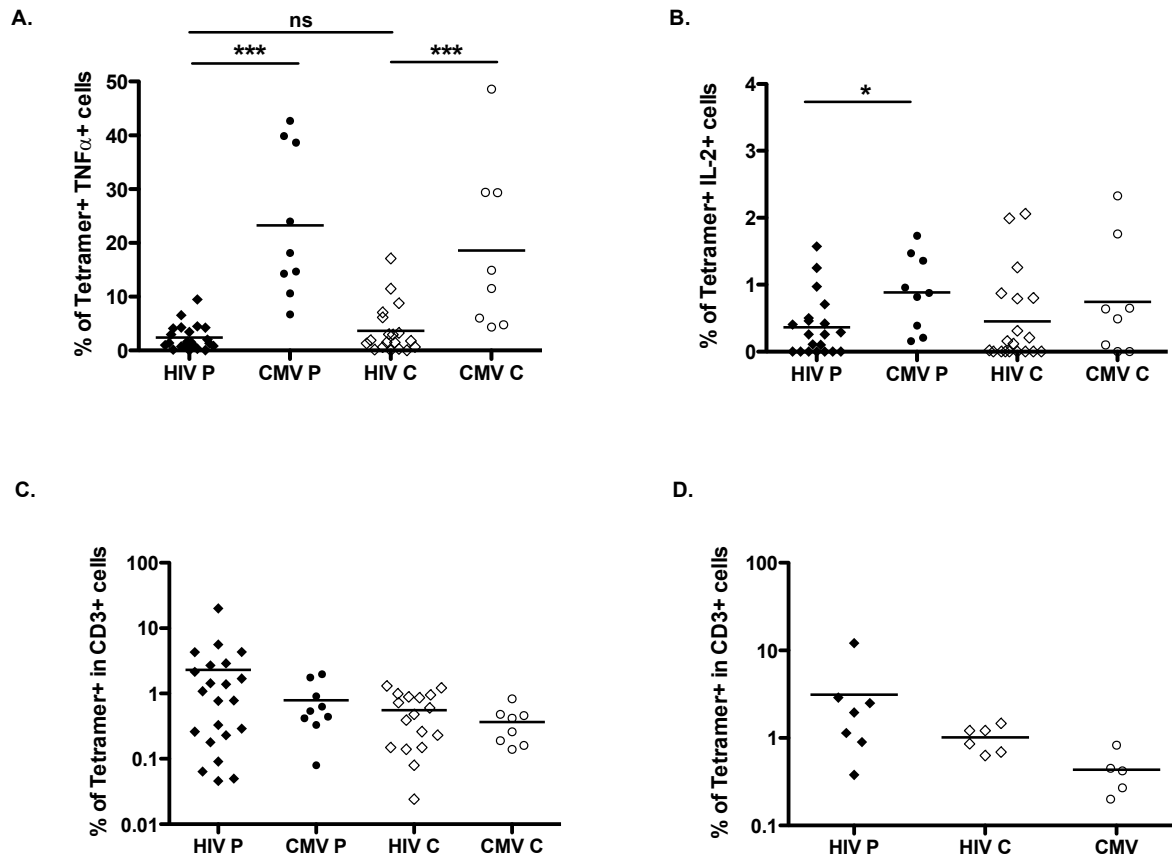
* Epitope sequences obtained by clonal sequencing

Supplementary Table 2: Subjects characteristics in chronic HIV infection. Number of days post-infection (INF days), Fiebig stage, peripheral blood CD4 and CD8 T cell counts, HIV plasma viral load, age, sex, HLA-A and-B haplotypes, virus clade, and CMV and HIV-specific CD8 T cell responses studied are depicted for each subject with their corresponding autologous sequence. The autologous sequences of the potential epitopes based on the HLA typing that were not detected by tetramer staining are also depicted. Epitope sequences highlighted in purple represent escape variants in a non-anchored residue, and epitope sequences highlighted in orange represent escape variants in an anchored residue. HIV and CMV specificities highlighted in pink were used for the gene expression analyses.

Supplementary Table 3: Comparison of clinical data means between the entire cohorts and the subgroup of donors selected for gene array analysis. In the acute/early group selected for gene expression, the analyzed specificities were: 1 B7TL10, 2 B8FL8, 1 B8GI9, 1 A2FK10, 1 A3RK9, 1 A24RW8 and in the chronically infected group: 1 B7TL10, 2 B8FL8, 1 B8GI9, 2 A2FK10. The CMV specificities were analyzed in the same chronically infected individuals than the analyzed HIV specificities.

	Days Post Infection	CD4 Count/ul	CD8 Count/ul	Viral Load (copies/ml)
Primary infected cohort	53	487	1554	1,224,791
Selected AEI donors for gene arrays	60	380	1560	377,872
Chronically infected cohort	More than 6 months	455	795	105,696
Selected CI donors for gene arrays	More than 6 months	421	866	62,724

Supplementary Table 4: Complete list of the 10630 filtered probes used for gene expression analysis.



Supplementary Figure 1: Secretion of TNF and IL-2 by HIV and CMV-specific CD8 T cells after antigenic stimulation in primary and chronic infection. A, B. Percentage of cytokine secreting cells in tetramer+ cells for HIV (diamond) and CMV (circles) specific CD8 T cells in primary and chronic infection for TNF (A) and IL-2 (B). **C, D.** Percentage of HIV or CMV-specific CD8 T cells tetramers+ in primary and chronic infection in subjects analyzed for the functionality described Figure 5B and 5H: for the cytokine secretion (C) and the cytolytic capacity (D). No significant difference was observed between the percentage of HIV or CMV tetramers + in primary infection (HIV P or CMV P) and the percentage of HIV or CMV tetramers + in chronic infection (HIV C or CMV C).