

Supplementary Table 1

Analysis of square-root transformed CD4+ cell counts over time (years) in 30 chronically infected subjects (392 observations): model coefficients with 95% confidence intervals for slope and intercept

Fixed effects		95% CI	P value
Constant	22.34	16.15 28.53	
Time	-3.59	-4.92 -2.26	<0.0001
Mean % inhibition (CD8/CD4 = 2:1)	0.034	-0.045 0.114	
Time x mean inhibition	0.033	0.016 0.049	<0.0001
Random effects			
Variance between slopes	0.1912		
Variance between intercepts	14.1270		
Correlation (slope x intercept)	0.40		
Residual variance	4.8438		

Supplementary Table 2

Estimates of the rate of change of $\sqrt{\text{CD4}}$ /year for each patient in the Beijing

PRIMO cohort for the 4 models

Patient ID	Model 1	Model 2	Model 3	Model 4
	No covariates	% inhibition at		
		CD8/CD4 = 2:1	CD8/CD4 = 1:10	CD8/CD4 = 1:100
003	-1.12	-1.05	-0.82	-0.09
004	-1.08	-1.23	-1.15	-1.03
007	-4.48	-4.35	-4.11	-4.25
010	-2.35	-2.57	-2.89	-2.68
020 -	4.23	-3.72	-4.39	-4.37
022	-2.68	-2.52	-3.18	-2.80
024	0.33	0.37	0.05	0.02
025	-0.78	-0.61	-0.41	-0.63
027	0.29	0.30	0.31	0.64
030	-2.13	-1.93	-1.48	-2.15
032	-6.43	-6.28	-5.78	-5.55
033	-0.75	-1.00	-1.05	-1.03
037	-1.05	-0.94	-1.33	-1.37
038	-1.05	-1.03	-0.60	-1.00
044	-3.10	-3.71	-3.67	-3.24
046	-2.68	-2.93	-3.67	-3.06
047	-0.85	-0.58	-1.25	-1.50
049	-4.68	-4.44	-4.55	-4.32

050	-0.91	-0.95	-0.77	-0.84
062	-2.89	-2.74	-2.31	-2.68

The estimates of rate of change of $\sqrt{\text{CD4}}$ for each patient are not exactly the same in each model owing to error associated with the estimation; intra-subject variation is small compared with inter-subject variation.

Supplementary Figure legend

Figure S1

CD8⁺ T cell-mediated inhibition of HIV-1 replication *in vitro* is HLA class I-restricted.

CD8⁺ T cells from chronically infected subjects were cultured at various CD8⁺/CD4⁺ cell ratios with HIV-infected allogeneic CD4⁺ T cells from HIV-uninfected donors who were matched for a single HLA class I allele. Top panel - patient IC-105 CD8⁺ T cells (HLA-A*01,24 B*08,39 C*07), middle panel – patient IC-124 CD8⁺ T cells (HLA-A*23,30 B*5702,15 Cw*02,04).

Bottom panel: comparison of antiviral activity of CD8⁺ T cells from patients IC-105 and IC-128 when tested against HIV-infected CD4⁺ cells from an unrelated donor, who shares one HLA class I allele with IC-105 but none with IC-128, and against HIV-superinfected autologous CD4⁺ cells. An E:T ratio of 2:1 was used throughout. Percentage inhibition was calculated as described in Materials and Methods.

