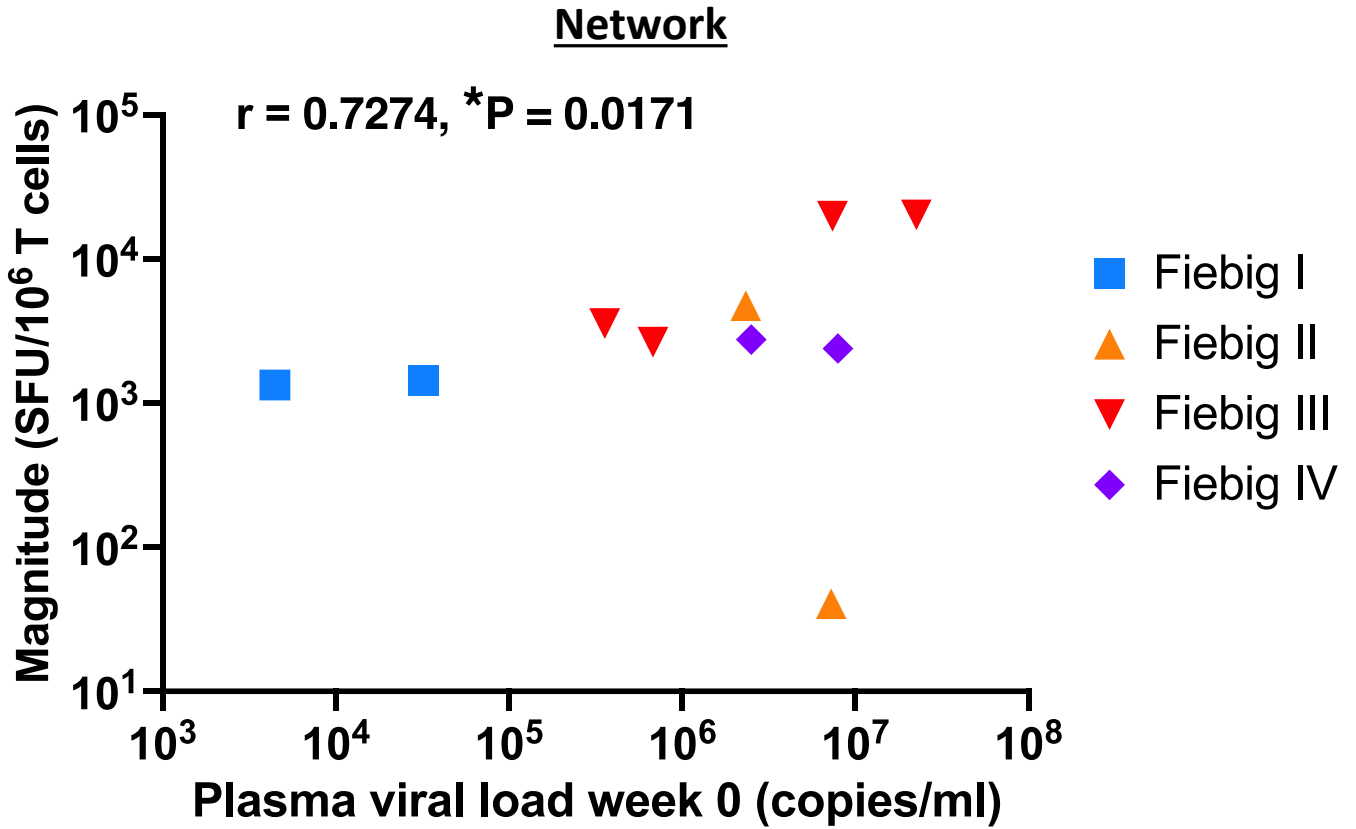
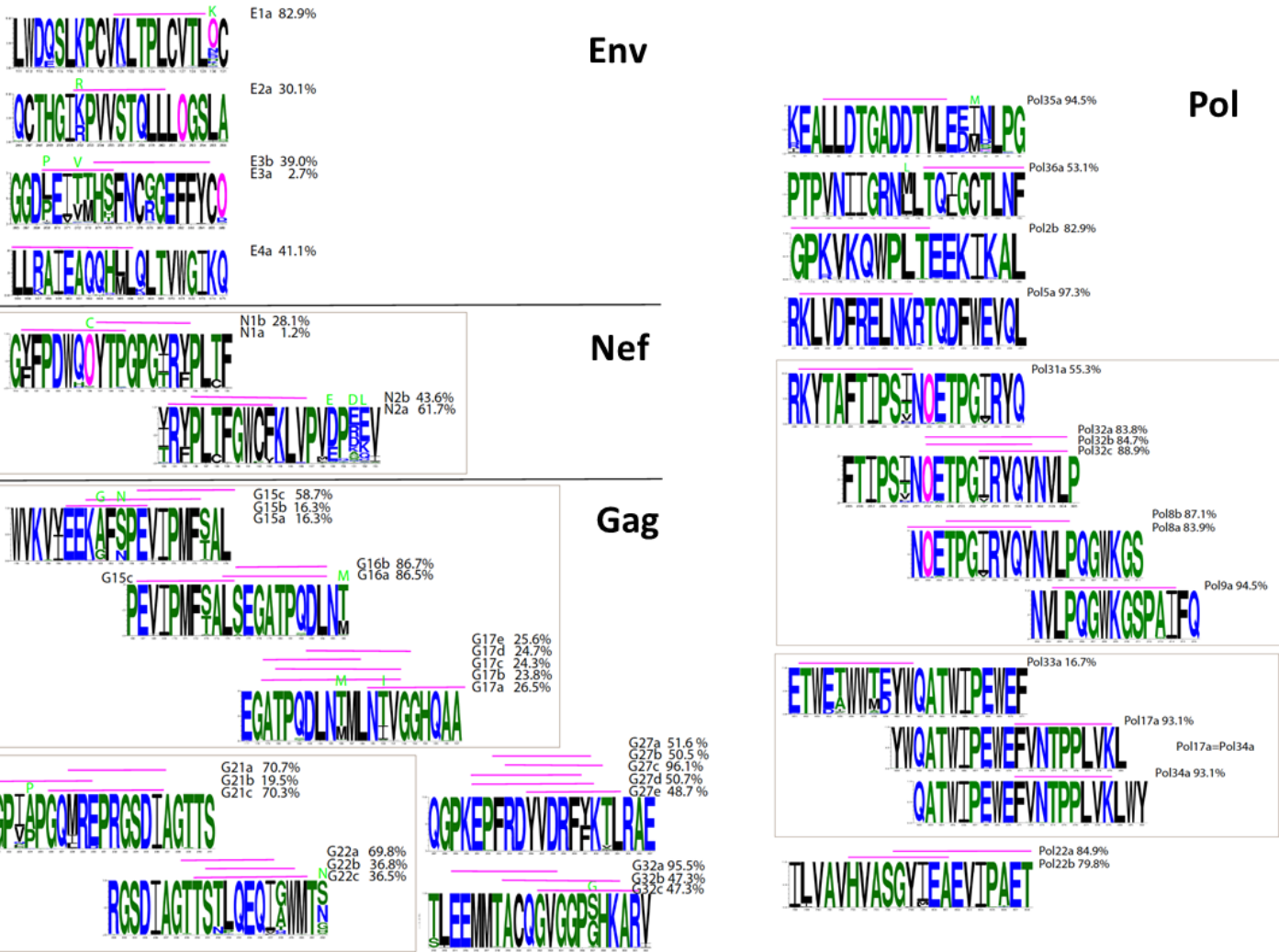


Fig S1



Correlation between plasma viral load at week 0 prior to ART treatment and magnitude (SFU/10<sup>6</sup> T cells) of IFN $\gamma$  responses for each Fiebig stage for AHI.

# Fig S2



**Network peptide variability for Env, Nef, Gag and Pol proteins.** Logos show the frequency of the amino acid in the **M group** in the network peptides. The most common amino acid is on the top. Magenta O's are N's embedded in glycosylation sequences, Nx[ST]. Green letters above the logo means the amino acid within network peptide does not match the most common form globally. Pink lines are the efferent epitopes for the respective afferent peptide. The number following the designation, is how many times an exact match is found in the M group.

**Fig S3**

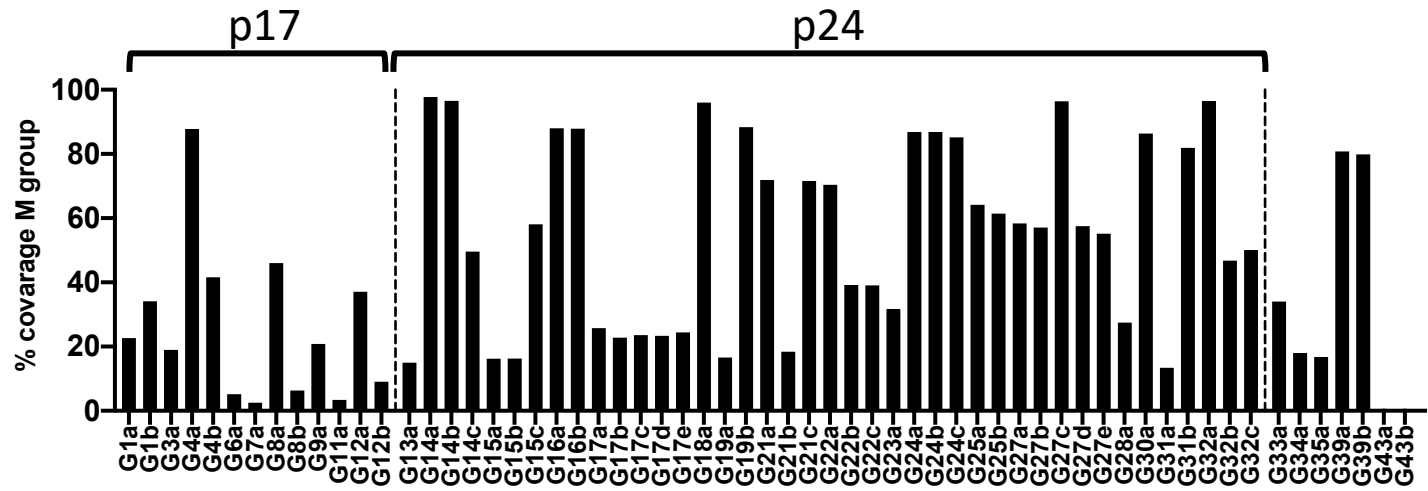


**Epigraph peptide variability for Pol and Gag proteins.** Logos show the frequency of the amino acid in the **M group** in the network peptides. The most common amino acid is on the top. Magenta O's are N's embedded in glycosylation sequences, Nx[ST]. Green letters above the logo means the amino acid within network peptide does not match the most common form globally. Pink lines are the efferent epitopes for the respective afferent peptide. The number following the designation, is how many times an exact match is found in the M group.

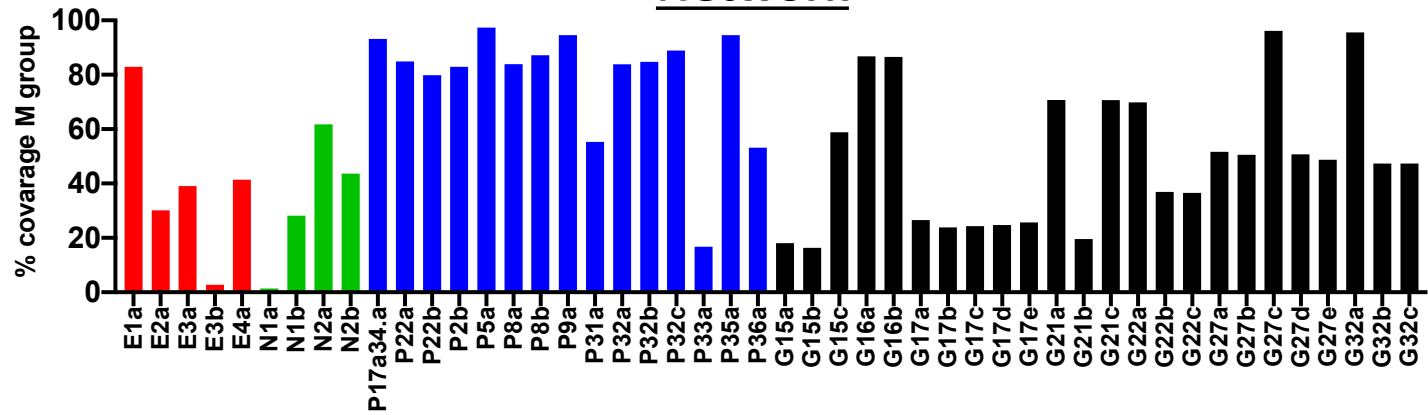
**Fig S4**

■ Gag ■ Pol ■ Env ■ Nef

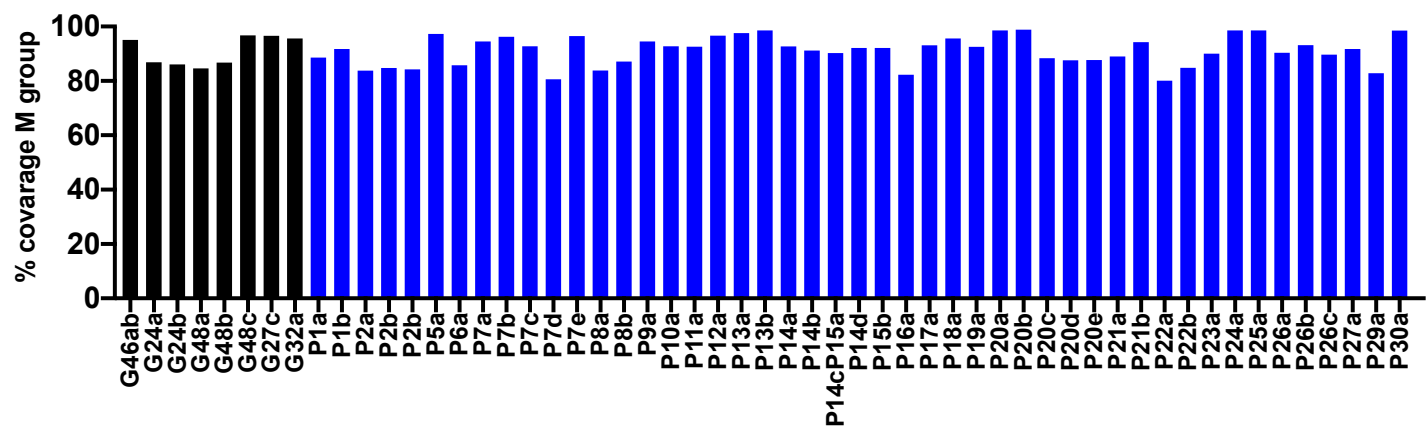
**Gag**



**Network**



**Epigraph**



Exact matching frequency of epitopes with the M group alignment

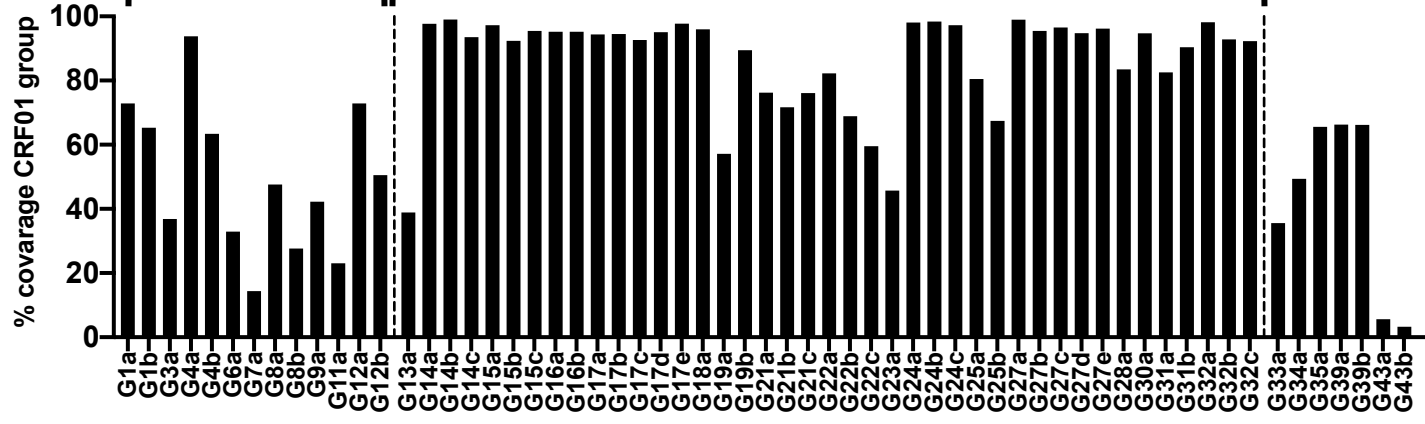
Fig S5

■ Gag ■ Pol ■ Env ■ Nef

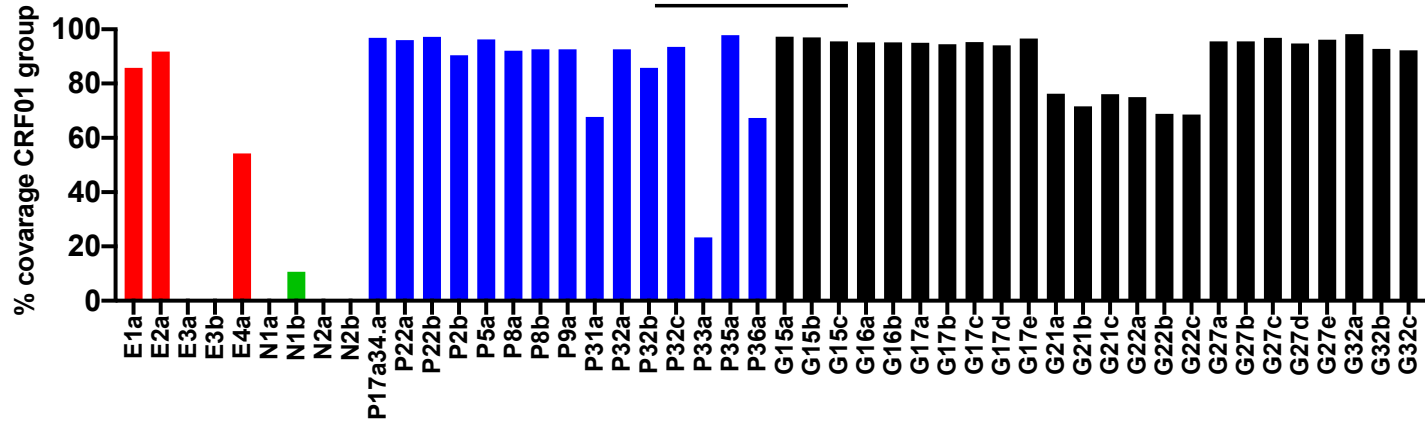
Gag

p17

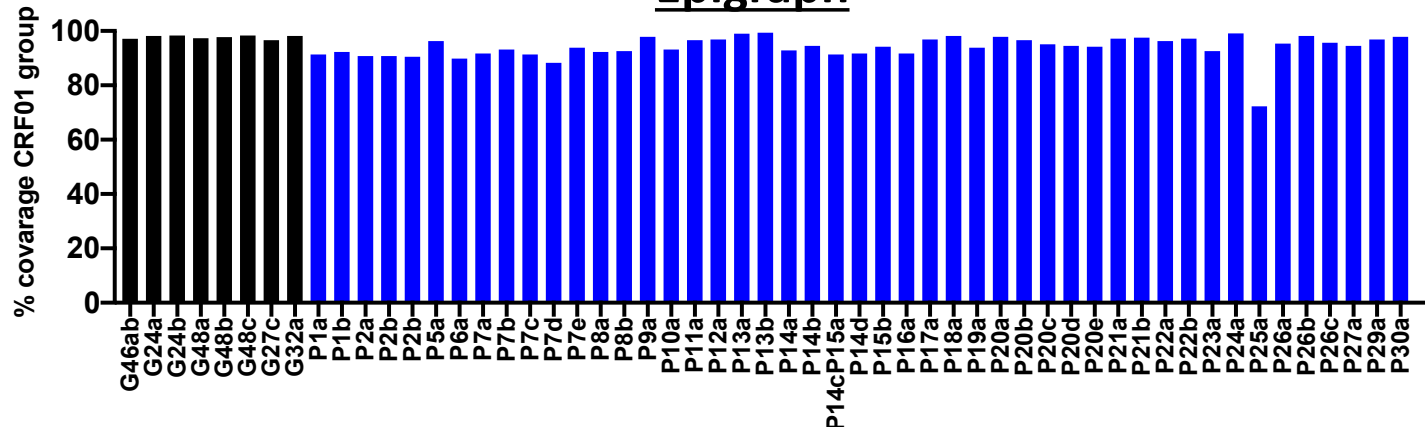
p24



Network

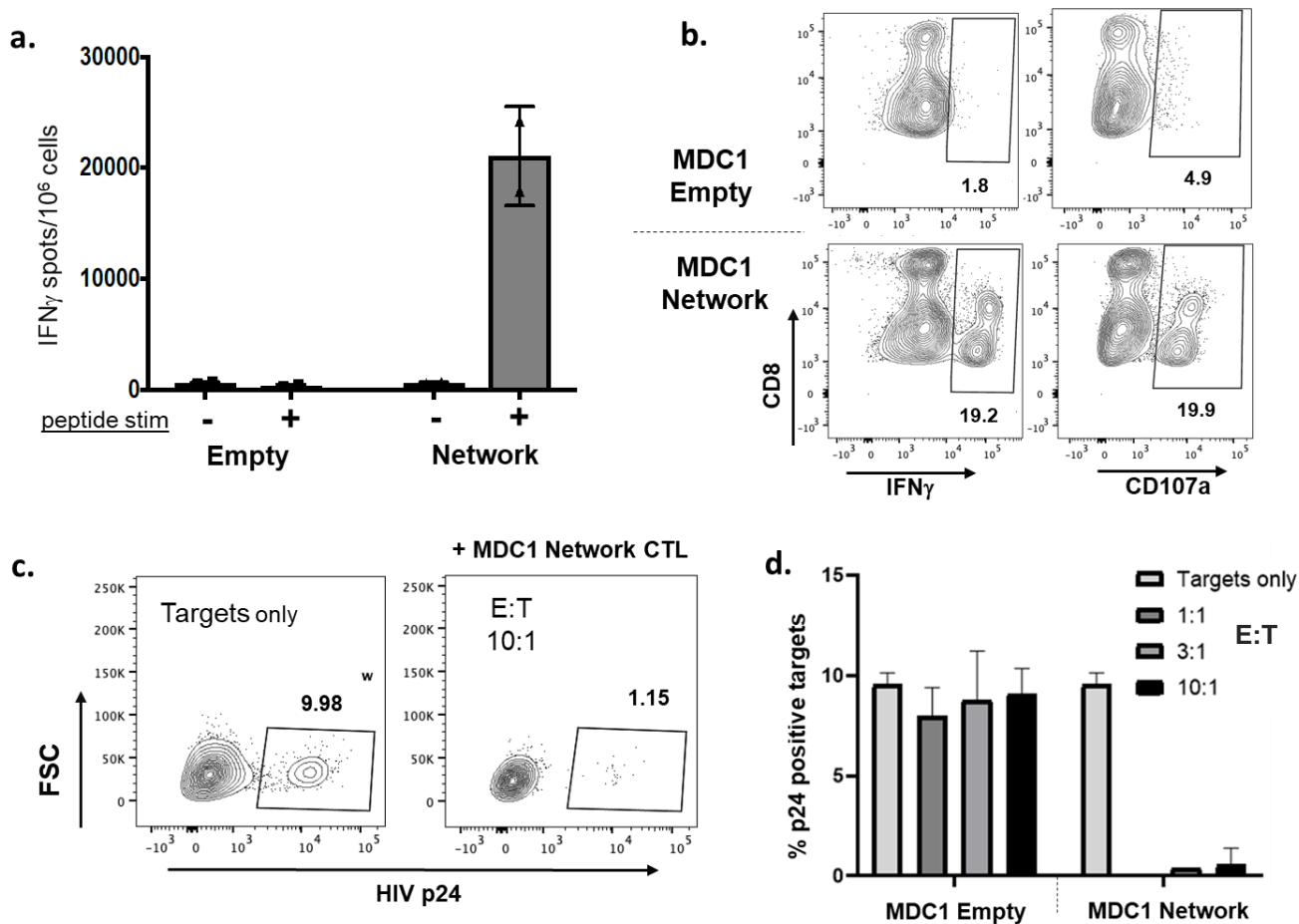


Epigraph



Exact matching frequency of epitopes with the CRF01 group alignment

# Fig S6



## MDC1-induced CTL effectively kill autologous HIV-1 infected CD4+ T cells.

MDC1 from study participant 5497 were used to present the HIV-1 'Network' pool of afferent stimulator peptides to initiate autologous T cell cultures, with control 'Empty' MDC1 used as non-specific T cell stimulators. a) Cultured T cells (day 21) were tested for IFN $\gamma$  responses to the 9-13mer 'Network' peptide pool by ELISA. b) Flow cytometry results showing 'Network' 9-13mer peptide induced IFN $\gamma$  (left) and CD107a (right) expression in activated T cell cultures (day 28). Top row depicts responses from MDC1 'Empty' initiated cultures, and the bottom row depicts responses in MDC1 'Network' initiated T cell cultures c) Anti-CD3/CD28 bead-activated and cultured CD4+ T cells expressing HIV-p24 (left) were used as targets to measure HIV-1 specific killing activity of the CTL expanded by MDC1 presenting the 'Network' peptides d) Dose dependent CTL killing of autologous HIV-1 infected CD4+ T cell targets described in c) by effector CTL generated using MDC1 loaded with afferent 'Network' peptides (right) compared to non-specific CTL expanded using peptide negative 'Empty' MDC1 (left). Killing determined by percent selective loss of p24+ target cells with increasing CTL compared to targets alone. E:T ratios were 10:1, 3:1, and 1:1. The data show are assay triplicates for one donor. Error bars=  $\pm$  SD.