1   **Additional file as PDF:**

2

3   **Kuang et al. "Impaired Nef function is associated with early control of HIV-1 viremia"**

4

5   **Figure S1: Nef sequences examined in this study.** An unrooted maximum likelihood

6   phylogenetic tree illustrates all clonal Nef sequences isolated from 10 AC (red) and 55 AP (blue)

7   participants. In addition, bulk patient Nef sequences (black) and the Nef sequence from HIV-

8   1_{SF2} reference strain (grey) are shown. Asterisks (*) indicate Nef clones selected for functional

9   assessments.

10

11   **Figure S2: Range of CD4 and HLA class I downregulation activities in Acute Controllers.**

12   Scatter plots depict normalized CD4 (***Panel A***) and HLA class I (***Panel B***) downregulation

13   activities observed for multiple clones (N≥5) isolated from baseline samples in AC patients. The

14   dashed line (----) indicates wild type Nef function (set as 1.0), calculated using positive control

15   Nef_{SF2}. Solid bars and whiskers represent median and inter-quartile range, respectively.
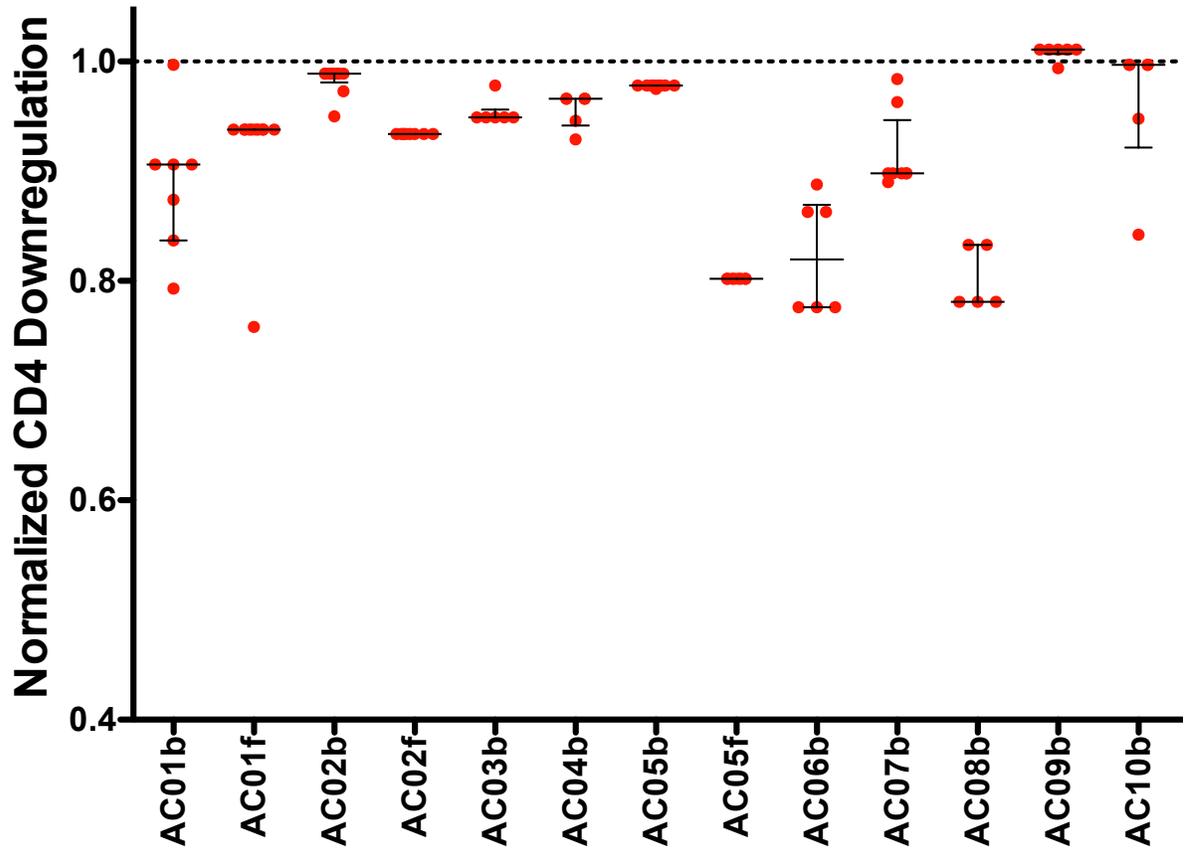
16

17   **Figure S3: Correlations analyses in Acute Controllers and Acute Progressors**.

18   Nonparametric Spearman tests were used to conduct pair-wise analyses between clinical markers

19   of HIV-1 infection and *in vitro* Nef functions at the baseline timepoint in Acute Controllers (AC)

20   (***Panels A, B, C***) or Acute Progressors (AP) (***Panels D, E, F***). Significant correlations were

21   observed between plasma viral load (pVL) and estimated days postinfection (eDPI) in both

22   cohorts (***A, D***), between Nef-mediated HLA class I downregulation and eDPI in AC (***B***), and

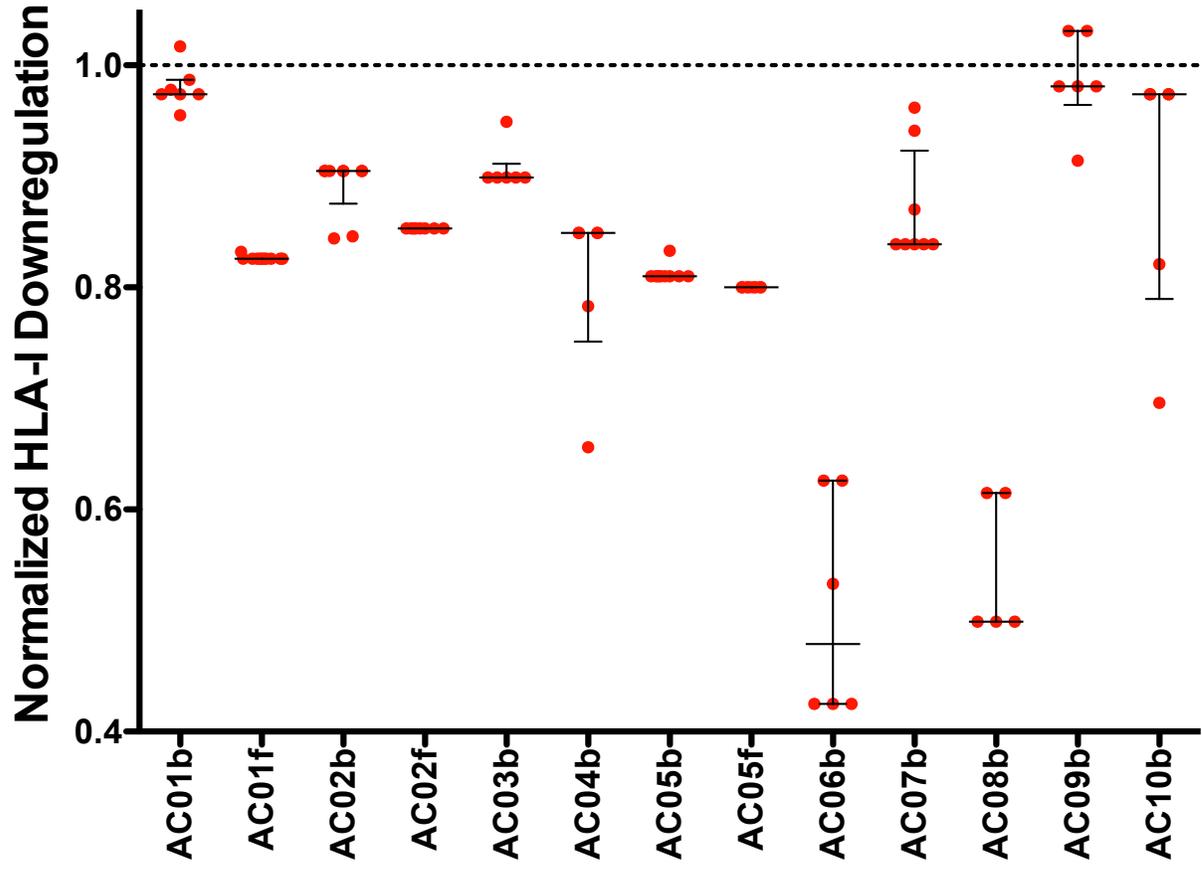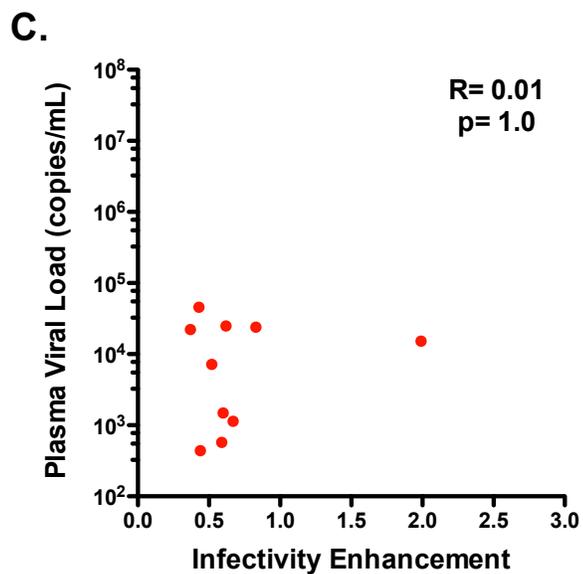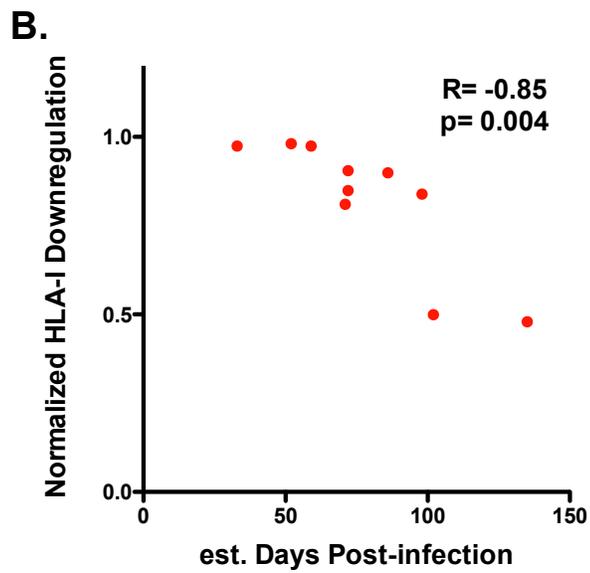23   between pVL and Nef-mediated infectivity enhancement in AP (***F***).
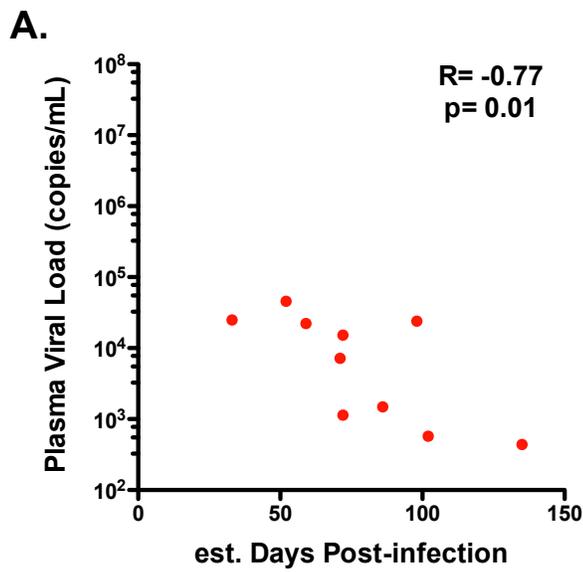
Figure S1

Figure S2

Figure S3

Acute Controllers (N=10)

A.

Acute Progressors (N=50)

D.

B.

E.

C.

F.