## SUPPLEMENTAL MATERIAL

**McCoy et al., http://www.jem.org/cgi/content/full/jem.20112655/DC1**

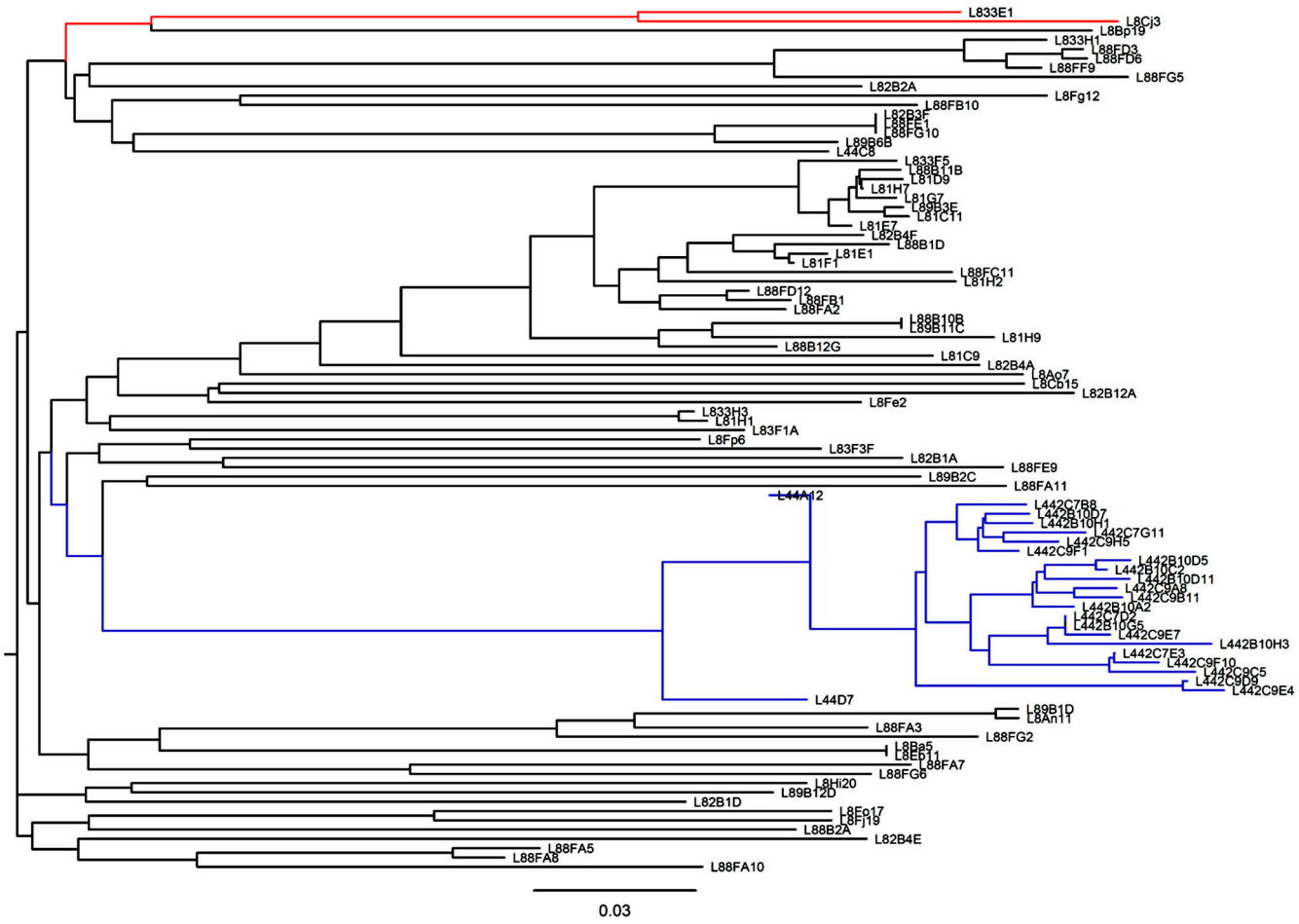


**Figure S1. Phylogenetic relationship of the J3 and A12 VHH families.** Protein sequences obtained for all anti-HIV VHH obtained from llama 44 by panning and llama 8 by panning or direct neutralization screening aligned by ClustalW and graphically displayed using FigTree software. The branches resulting in the A12 family are colored blue, and those leading to the J3 family are colored red.

**Table S1.** Immunization schedule

| Day | Immunization | Tissue collection |
|---|---|---|
| 0 | 50 µg $Gp140_{UG37}$<br>50 µg $Gp140_{CN54}$ | 10 ml preimmune blood |
| 7 | 50 µg $Gp140_{UG37}$<br>50 µg $Gp140_{CN54}$ | |
| 14 | 25 µg $Gp140_{UG37}$<br>25 µg $Gp140_{CN54}$ | |
| 21 | 25 µg $Gp140_{UG37}$<br>25 µg $Gp140_{CN54}$ | 10 ml immune blood |
| 28 | 25 µg $Gp140_{UG37}$<br>25 µg $Gp140_{CN54}$ | |
| 30 | | 150 ml immune blood |
| 35 | 25 µg $Gp140_{UG37}$<br>25 µg $Gp140_{CN54}$ | |
| 43 | | 150 ml immune blood |
| 113 | 25 µg $Gp140_{UG37}$<br>25 µg $Gp140_{CN54}$ | 10 ml immune blood |
| 122 | | 150 ml immune blood |

An *L. glama*, designated llama 8, received seven intramuscular injections with recombinant $Gp140_{CN54}$ and $Gp140_{UG37}$ on the days indicated. Each injection consisted of recombinant Env at the required concentrations combined with the adjuvant Stimune. The anti-Env immune response in sera was verified by ELISA and retrospectively by TZM-bl neutralization assay (Fig. 1). A pCAD50 phagemid library (library 8) was generated from peripheral blood lymphocytes taken on day 122 after immunization. This llama was one of two animals immunized in parallel.

**Table S2, included as an Excel file, shows VHH IC50 titers against HIV-1 in TZM-bl cells.**

**Table S3, included as an Excel file, shows mAb IC50 titers against a matched subset of HIV-1 strains in TZM-bl cells.**