

Supplementary Information for

Fc-mediated effector function contributes to the *in vivo* antiviral effect of an HIV neutralizing antibody

Authors: Mangaiarkarasi Asokan^{1,*}, Joana Dias², Cuiping Liu¹, Anna Maximova¹, Keenan Ernste¹, Amarendra Pegu¹, Krisha McKee¹, Wei Shi¹, Xuejun Chen¹, Cassandra Almasri¹, Wanwisa Promsote², David R. Ambrozak², Lucio Gama², Jianfei Hu³, Daniel C. Douek³, John-Paul Todd⁴, Jeffrey D. Lifson⁵, Slim Fourati⁶, Rafick P. Sekaly⁶, Andrew R. Crowley⁷, Margaret E. Ackerman⁷, Sung Hee Ko⁸, Divya Kilam⁸, Eli A. Boritz⁸, Laura E. Liao⁹, Katharine Best⁹, Alan S. Perelson⁹, John R. Mascola¹, and Richard A. Koup^{2,*}

*Correspondence:

Richard A Koup, MD
40 Convent Drive
Vaccine Research Center
National Institutes of Health
Bethesda,
MD 20892
+1 301-594-8585
rkoup@mail.nih.gov

Mangaiarkarasi Asokan, PhD
40 Convent Drive
Vaccine Research Center
National Institutes of Health
Bethesda,
MD 20892
+1 240-669-5774
asokan.mangaiarkarasi@nih.gov

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Figures S1 to S11

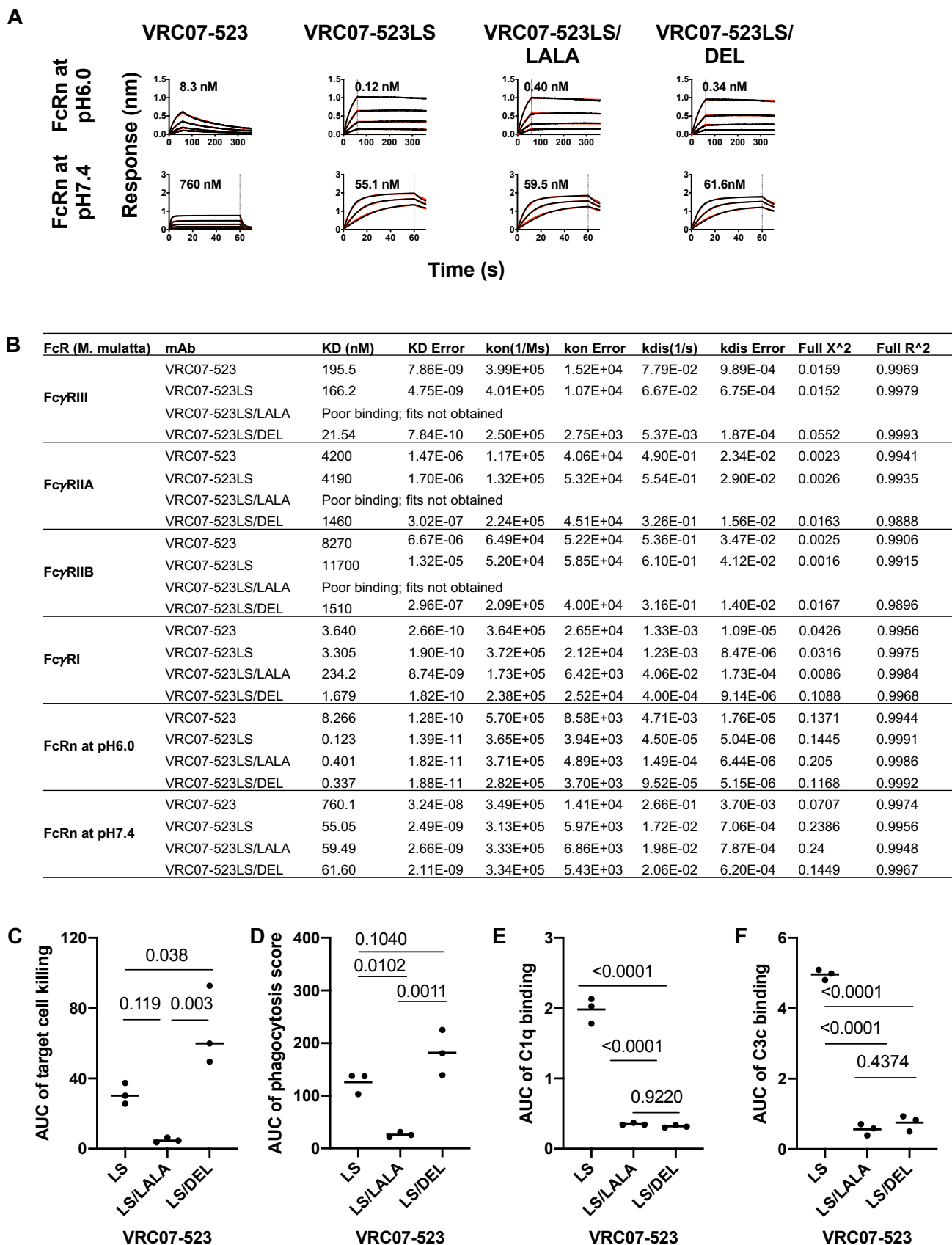


Figure S1: A) Binding kinetics of the antibodies to rhesus FcRn at pH6.0 or 7.4. Curves were fitted to a 1:1 binding model. Black lines show measured data and red lines are the fits. K_D values are shown within each graph. B) Summary of K_D , association and dissociation rates along with errors, and the fit parameters for all Fc receptors. C) Area under the curve for target-cell killing mediated by NK cells isolated from 3 rhesus macaques. D) AUC for phagocytosis performed on THP-1 cells. E, F) AUC for binding to C1q or C3c for serum isolated from three rhesus macaques. P-values were calculated by one-way ANOVA.

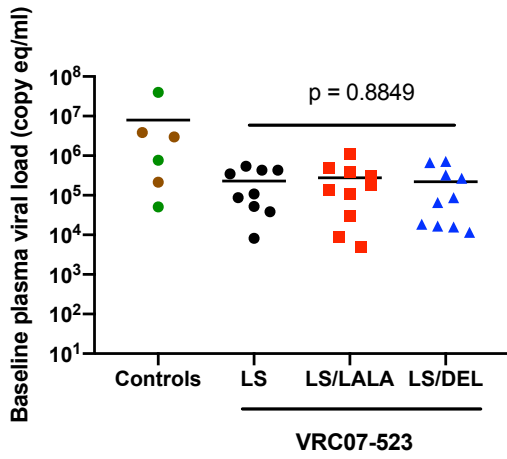


Figure S2: Comparison of pre-treatment viral loads across treatment groups. Baseline was calculated as mean of plasma viral load at 48h, 24h and 30 min before NAb infusion. P-values were calculated using one-way ANOVA.

A

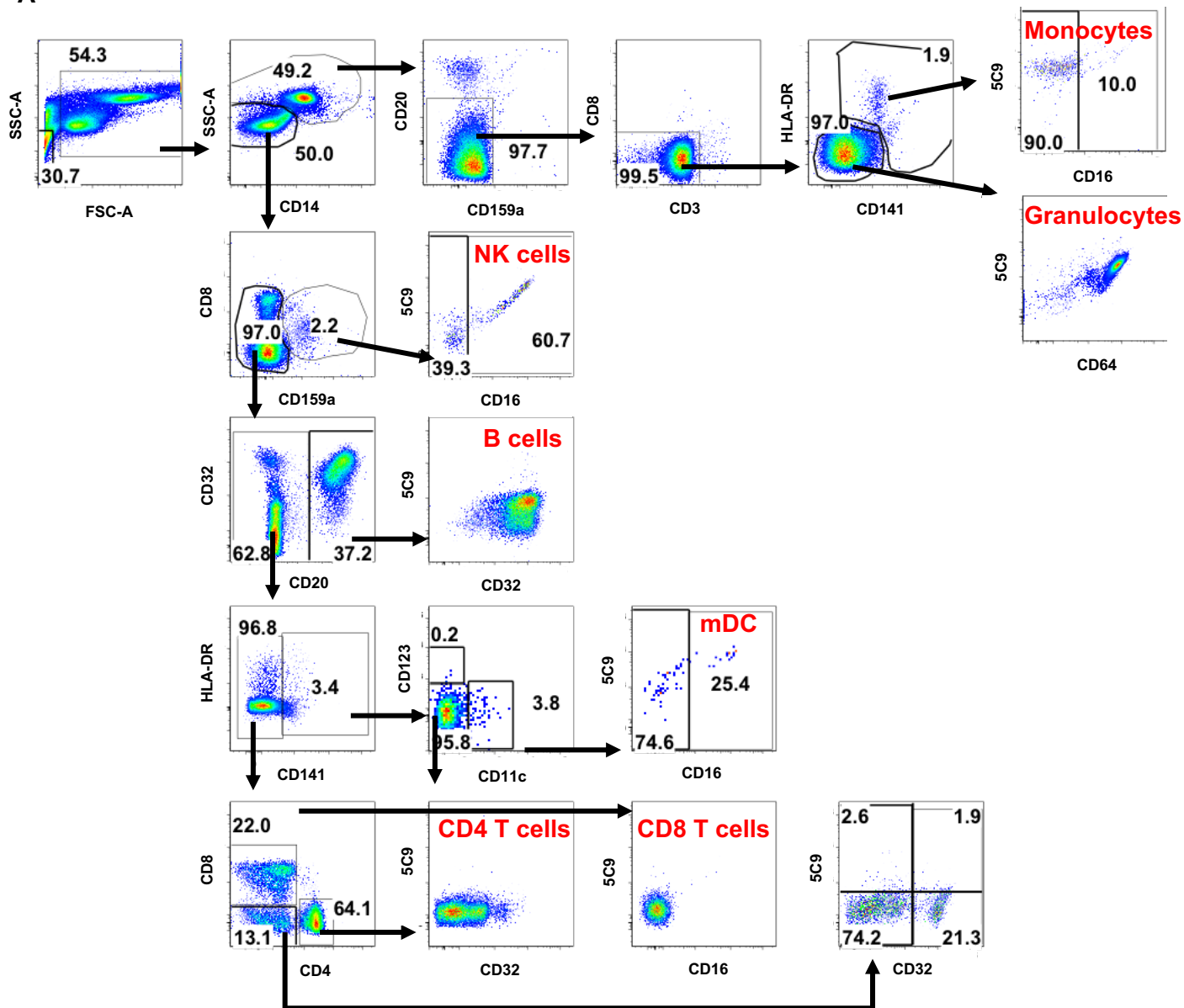


Figure S3: Representative flow cytometry gating strategy of whole blood sample stained with lineage markers, Fc γ receptors and anti-Id against VRC07-523LS (5C9).

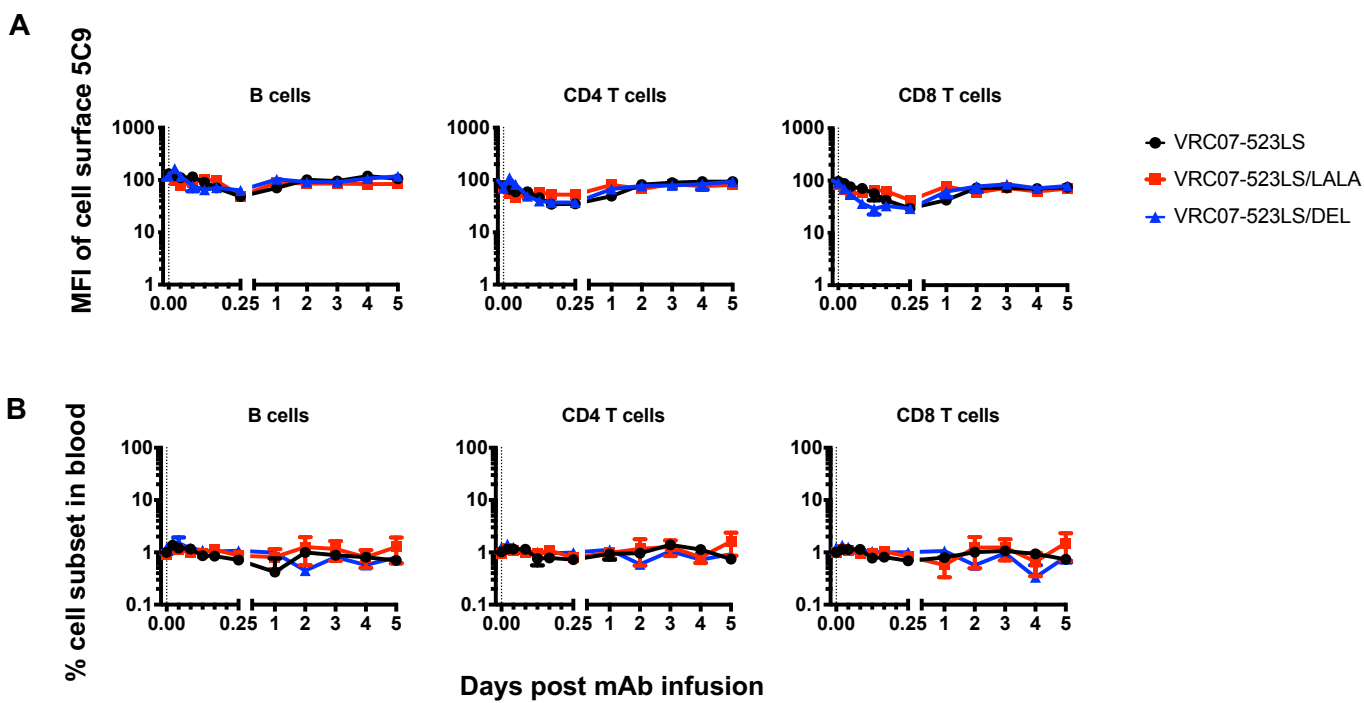


Figure S4: A) Levels of cell-surface bound NAb and B) Changes in cell subset frequency on B cells, CD4 T cells and CD8 T cells

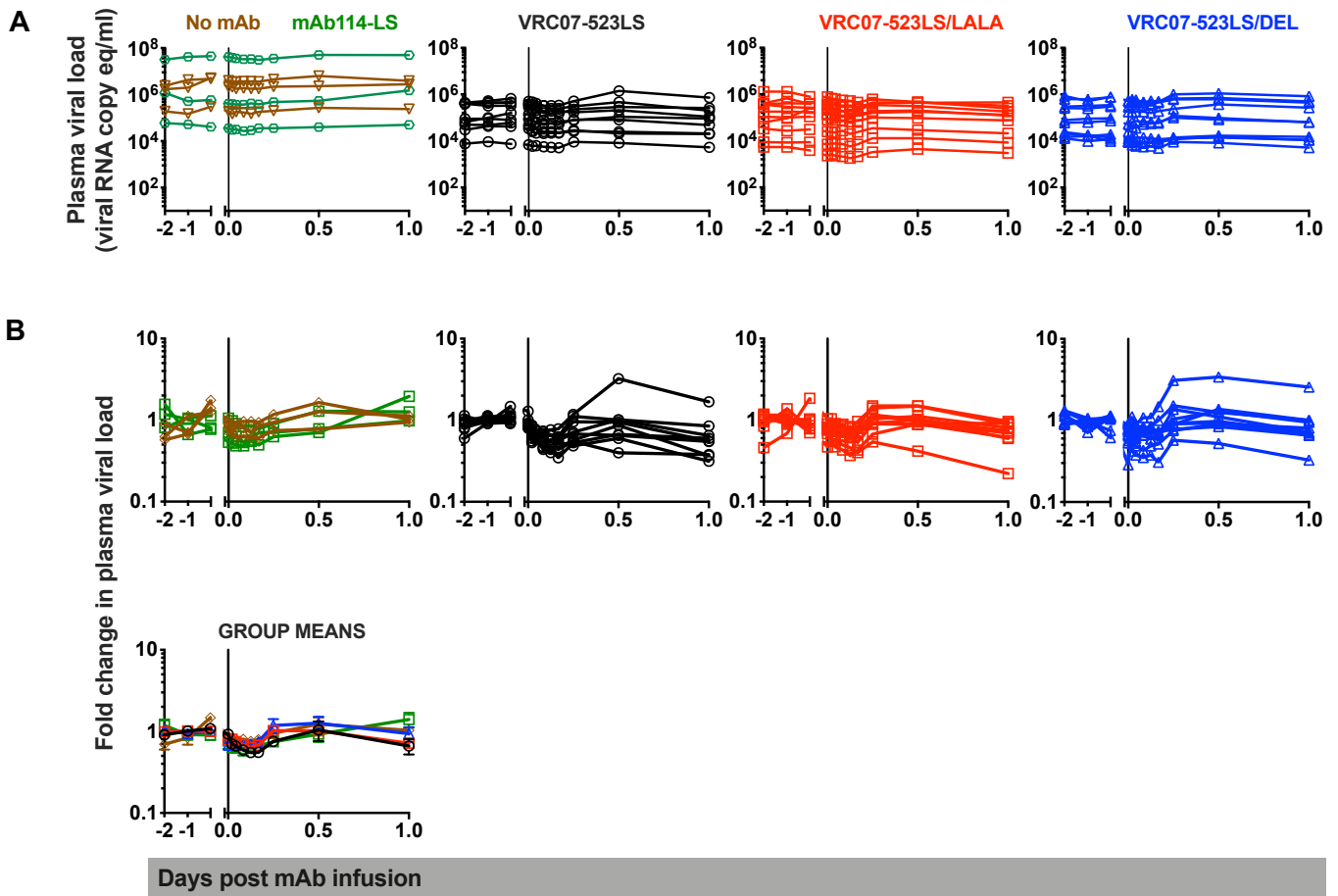
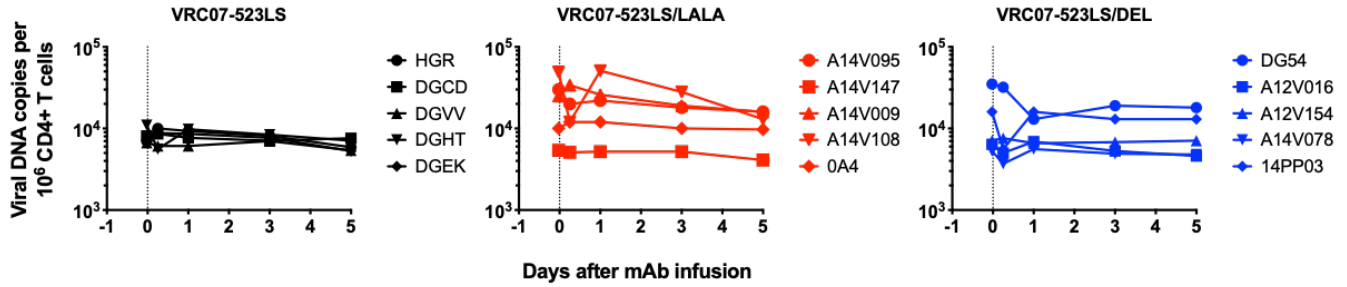


Figure S5: a) Plasma viral loads pre-infusion and until day 1 post infusion b) Fold change in plasma viral load normalized to baseline shown for individual animals as well as for group means

A



B

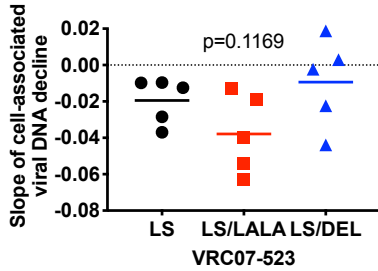


Figure S6: Cell-associated viral DNA. A) Sorted CD4+ T cells from frozen PBMC were assayed for levels of viral DNA at 30 mins before NAb infusion and 6h, days 1, 3 and 5 post NAb infusion. B) Slopes of change in cell-associated viral DNA load were calculated by linear regression analysis and p-values were calculated by one-way ANOVA.

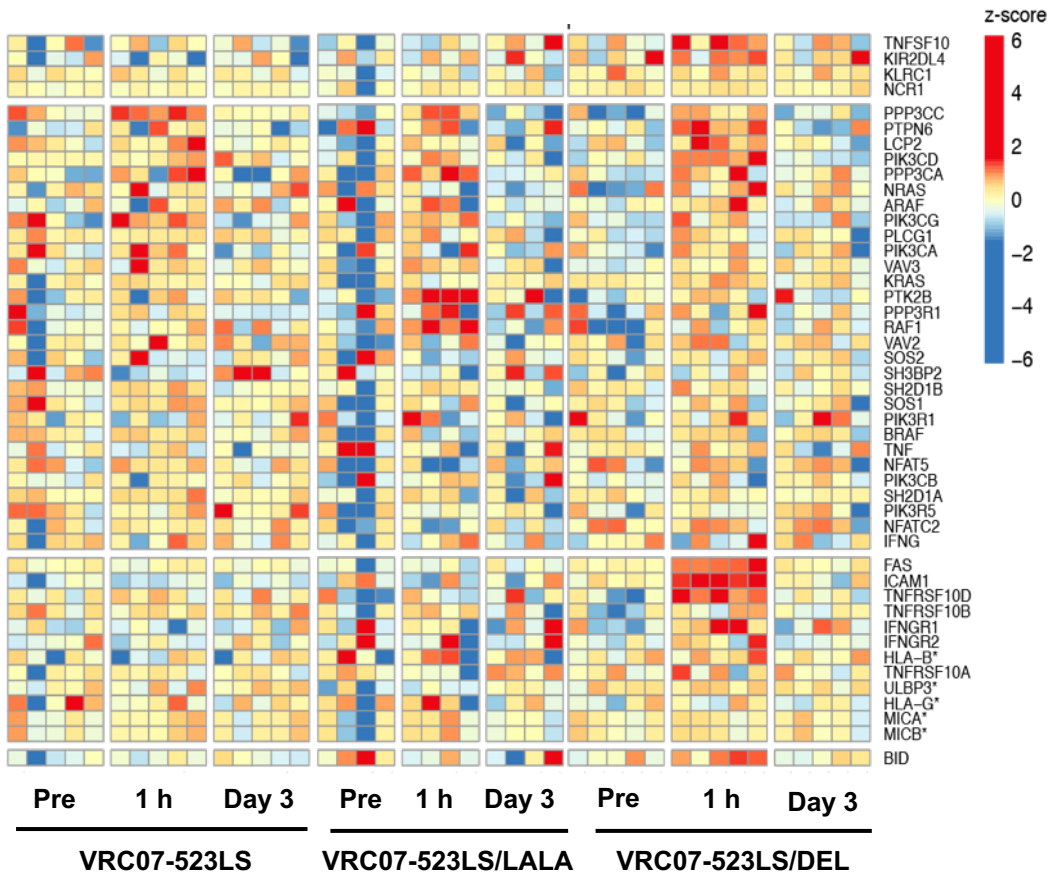


Figure S7: Heatmap showing the SLEA z-score of genes in the NK cell-mediated ADCC pathway

NK cells		
NAME	FDR q-val	Genes
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	1.14E-04	NFKB1,NFKBIA,BIRC2,NFKBIB,RELA,TAB2,MAPK12,TNFAIP3
KEGG_MAPK_SIGNALING_PATHWAY	0.00142	NFKB2,FAS,NFKB1,RELB,GADD45B,TP53,MAP2K3,MAP3K8,RELA,MAP2K7,TAB2,MYC,MAPK12,TRAF2,MKNK2,PPP3CC,AKT3,FGFR1,MAPK8IP3,NR4A1,CACNA1E,CACNA1A,MAPK11,GADD45A,FGF2,MAPKAPK2,PPP3CA,MAP4K4,NRAS,MAPK7
KEGG_TYPE_1_DIABETES_MELLITUS	0.00544	FAS,HSPD1,CPE,LTA,HLA-DOB
KEGG_APOPTOSIS	0.00637	FAS,NFKB1,TP53,NFKBIA,BIRC2,TNFRSF10D,RELA,TNFSF10,TRAF2,CFLAR,PPP3CC,AKT3,IRAK2,TNFRSF10B,IRAK3,PIK3CD
KEGG_RIG_1_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.00687	NFKB1,TANK,NFKBIA,NFKBIB,CYLD,RELA,MAPK12,TRAF2,TRAF3
KEGG_PROSTATE_CANCER	0.0101	NFKB1,TP53,NFKBIA,CREB1,TCF7,RELA,NKX3-1,MTOR,AKT3,FGFR1,PIK3CD,CCND1,IGF1R
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.0144	NFKB1,NFKBIA,MAP2K3,MAP3K8,RELA,MAP2K7,TAB2,MAPK12,TRAF3,AKT3,PIK3CD,MAPK11,IRF5,TLR2,TBK1
KEGG_T_CELL_RECEPTOR_SIGNALING_PATHWAY	0.0180	NFKB1,NFKBIA,NFKBIE,MAP3K8,NFKBIB,RELA,MAP2K7,MAPK12,BCL10,TEC,PPP3CC,PTPN6,AKT3,CTLA4,LCP2,DLG1,PIK3CD,ICOS,MAPK11,CARD11,PPP3CA,NRAS
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	0.0197	NFKB1,NFKBIA,NFKBIB,RELA,POLR3A,POLR1C
KEGG_GRAFT_VERSUS_HOST_DISEASE	0.0211	FAS,HLA-DOB
KEGG_SMALL_CELL_LUNG_CANCER	0.0257	NFKB1,TP53,NFKBIA,BIRC2,RELA,MYC,TRAF2,TRAF3,AKT3,PIK3CD,TRAF1,LAMA4,CCND1,TRAF5
KEGG_B_CELL_RECEPTOR_SIGNALING_PATHWAY	0.0307	NFKB1,NFKBIA,NFKBIE,NFKBIB,RELA,BCL10,PPP3CC,PTPN6,AKT3,PIK3CD,CARD11,PPP3CA,CD72,NRAS
KEGG_ALLOGRAFT_REJECTION	0.0440	FAS,HLA-DOB
KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_INFECTION	0.0496	NFKB1,NFKBIA,RELA,MAPK12,GIT1,MAPK11,ATP6V1C2
KEGG_ACUTE_MYELOID_LEUKEMIA	0.0301	NFKB1,TCF7,RELA,MYC,STAT5A,MTOR,AKT3,PIK3CD,RPS6KB1,CCND1,ZBTB16,RARA,PPARD,NRAS,TCF7L2,LEF1,ARAF,PIK3CG,EIF4EBP1,PIK3CA
KEGG_P53_SIGNALING_PATHWAY	6.84E-04	FAS,GADD45B,TP53,CCNG2,CCND2,CD82,TP53I3,TNFRSF10B,CCND1,SESN1,SESN2,BID,SIAH1,GADD45A
KEGG_LEISHMANIA_INFECTION	0.0259	NFKB1,NFKBIA,NFKBIB,RELA,TAB2,MAPK12,PTPN6,IFNGR1,HLA-DOB,MAPK11,TLR2,IFNGR2,TGFB2,HLA-DOA,TRAF6,IRAK1,ITGAM,NCF4
KEGG_NEUROTROPHIN_SIGNALING_PATHWAY	0.0295	NFKB1,TP53,NFKBIA,NFKBIE,SH2B3,NFKBIB,RELA,MAP2K7,MAPK12,AKT3,IRAK2,IRAK3,PIK3CD,MAPK11,MAPKAPK2,CAMK4,NRAS,MAPK7,IRS2,YWHAH,PIK3CG,PLCG1,PIK3CA,FRS2
Monocytes		
NAME	FDR q-val	Genes
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	4.94E-04	TNFRSF18,TNFSF8,TNFRSF10B,CSF2RA,TNFRSF10C,FLT1,CXCL3,IL1R2,CCL4L2,IL4R,IL1B,CCL4,CSF1,IL2RG,CD40,IL21R,FAS,TNFRSF10D,IL1A,IL7,IFNGR2,CCL22,CCL2,CXCR5,TNFSF15,TNFRSF1B,IL10,CXCL16,TGFB2,IL7R,IL6,TNFRSF6B,TNFRSF11A,CSF2RB,ACVR2A,CLCF1,VEGFB,PF4,IL1RAP,CCR1,TNFRSF9,IL3RA,IL6ST,IL12RB2,TNFRSF25,LIF,TNFRSF14,CCR7,CCL5,TGFB3,CCL20,TNFSF4,PDGFRB,OSM,IL23A,IL2RA,IL24,TNFRSF8,IFNAR2,PPBP,CCR5,TNF
KEGG_APOPTOSIS	0.0221	NFKB1,TNFRSF10B,BCL2L1,TNFRSF10C,NFKBIA,IL1B,BIRC2,BID,IRAK2,MYD88,FAS,CFLAR,TNFRSF10D,IL1A,PIK3R5,PIK3CD,NTRK1,BCL2,AKT2,CSF2RB,RELA,TRAF2,IL1RAP,IL3RA
KEGG_RIBOSOME	0.0228	RPS12,RPS29,RPS26,RPL21,RPL31,RPL24,RPL22L1,RPL18A,RPL5,RPS6,RPSA,RPS8,RPL10A,FAU,RPL4,RPS13,RPS21,RPS24,RPL17,RPL19,RPS10,RPS3A,RPL35,RPS27A,RPS5,RPL23,RPS15,RPL30,RPL27A,RPS20,RPS3,RPL8,RPL3,RPS23,RPL14,RPL26,RPS4Y1,RPL9,RSL24D1,RPL28,RPL7,RPL11,RPL13,RPL7A,RPL13A
KEGG_SMALL_CELL_LUNG_CANCER	0.0153	NFKB1,BCL2L1,TRAF1,TRAF3,NFKBIA,FN1,BIRC2,E2F3,CCND1,LAMB3,ITGAV,PIAS2,LAMC1,MYC,PIK3R5,PIK3CD,ITGA6,LAMA5,BCL2,AKT2,RELA,TRAF2,CDK6,CDKN2B,PIK3CG
KEGG_PATHWAYS_IN_CANCER	0.0188	NFKB1,NFKB2,BCL2L1,CSF2RA,TRAF1,MITF,TRAF3,NFKBIA,WNT5A,FN1,PPARG,BIRC2,PPARD,FZD7,NKX3-1,BID,E2F3,JAK1,FK,CCND1,MMP9,FAS,LAMB3,ITGAV,PIAS2,LAMC1,MYC,PIK3R5,PIK3CD,NTRK1,STAT3,SP1,ITGA6,TCEB1,SMAD3,TGFB2,ARAF,SLC2A1,IL6,LAMA5,BCL2,AKT2,CTNNB1,RALGDS,BRAF,HDAC2,EPAS1,VEGFB,RELA,TRAF2,RALA,CDK6,BCR,CDKN2B,HIF1A,PIK3CG,LEF1,XIAP,TGFB3
KEGG_AUTOIMMUNE_THYROID_DISEASE	0.0280	CD80,CD40,FAS,IL10,HLA-DQA1,HLA-DQB1,CD86,HLA-DPA1,CTLA4,CD28,HLA-DRB1
KEGG_GRAFT_VERSUS_HOST_DISEASE	0.0316	IL1B,CD80,FAS,IL1A,IL6,HLA-DQA1,HLA-DQB1,TNF,CD86,HLA-DPA1,KLRD1,CD28,HLA-DRB1
KEGG_ALLOGRAFT_REJECTION	0.0351	CD80,CD40,FAS,IL10,HLA-DQA1,HLA-DQB1,TNF,CD86,HLA-DPA1,CD28,HLA-DRB1
KEGG_HEMATOPOIETIC_CELL_LINEAGE	0.00198	CSF2RA,TFRC,IL1R2,IL4R,IL1B,CD14,CD44,CSF1,CD22,IL1A,IL7,GP1BA,ITGA6,IL7R,IL6,ANPEP,CD9,CD36,GP9,IL3RA,CD19,FCGR1A,MS4A1,CD8A,ITGA2B,IL2RA,CD3E,ETF
KEGG_JAK_STAT_SIGNALING_PATHWAY	0.00239	BCL2L1,CSF2RA,JAK3,IL4R,CCND2,JAK1,IL2RG,IL21R,CCND1,IL7,PIAS2,CISH,IFNGR2,MYC,PIK3R5,SOC3S,PIK3CD,STAT3,IL10,IL7R,IL6,AKT2,CSF2RB,SOC2S,CLCF1,SPRED2,IL3RA,IL6ST,PIK3CG,IL12RB2,LIF,SPRY2,SPRY4,OSM,IL23A,IL2RA,IL24,IFNAR2,SOC4,STAT4
KEGG_FOCAL_ADHESION	0.0423	SRC,ACTG1,FLT1,VAV1,FN1,CCND2,BIRC2,ACTN1,FLNB,CCND1,LAMB3,ITGAV,LAMC1,VAV3,PIK3R5,PIK3CD,ITGA6,VWF,RAPGEF1,LAMA5,BCL2,AKT2,CTNNB1,BRAF,PXN,VEGFB,ACTN4,SHC2,ITGA9,PIK3CG,XIAP,PDGFRB,ITGA2B,LAMA2,ZYX,ITGB5,MYLK
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	0.0446	ICAM1,TNFRSF10B,TNFRSF10C,HCST,VAV1,BID,FAS,NFATC1,LCP2,TNFRSF10D,NFAT5,NCR1,IFNGR2,VAV3,PIK3R5,PIK3CD,ARAF,BRAF,CD247,SHC2,PIK3CG

Figure S8: Table showing the list of pathways and genes upregulated at 1h post infusion of VRC07-523LS/DEL NAb in NK cells and monocytes

B

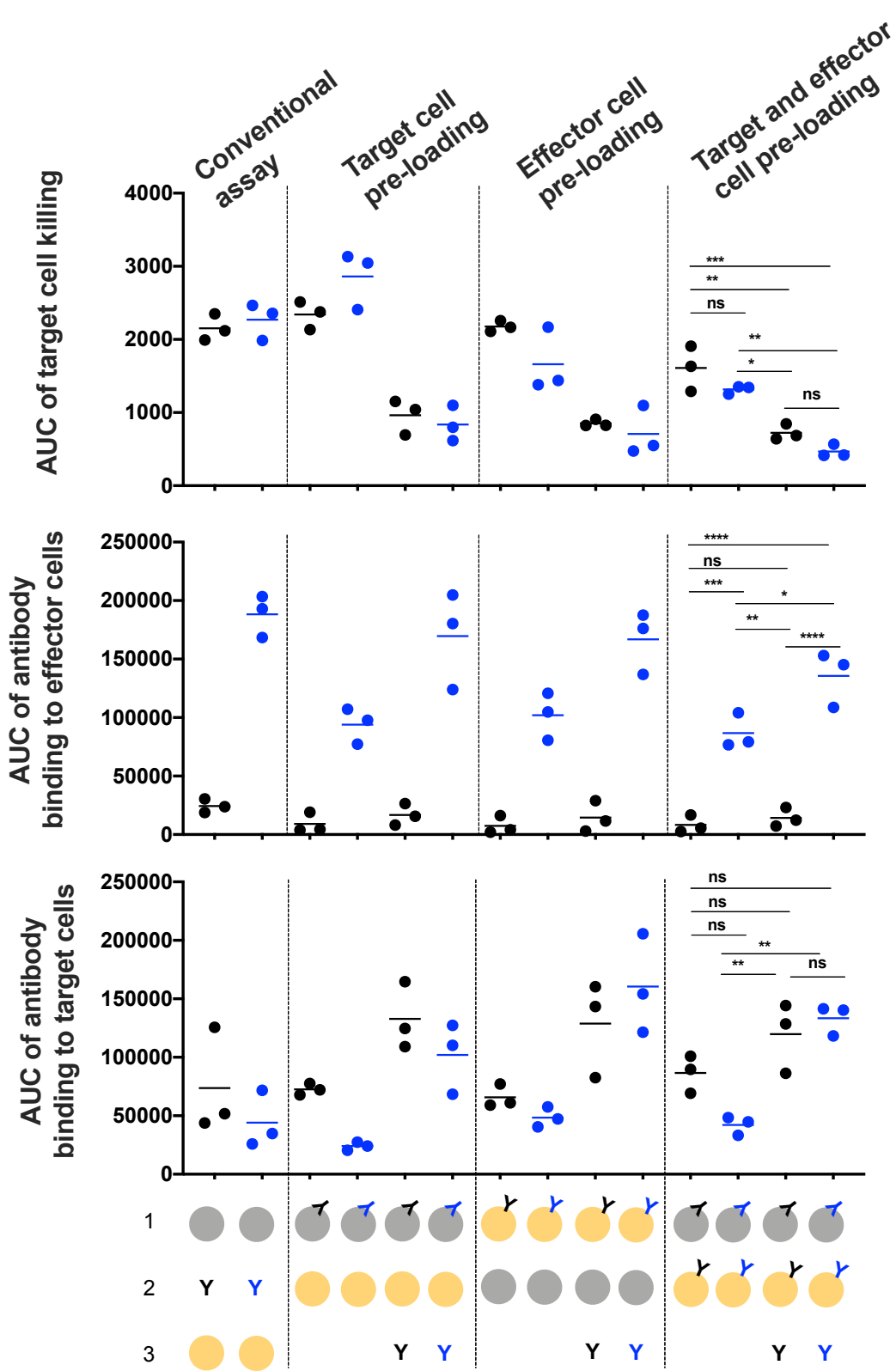


Figure S9: Prozone effect *in vitro*. A) ADCC assays were performed using CEM-SHIV_{SF162P3} as targets (grey circles) and KHYG-Rh cell lines expressing FcγRIII as effectors (orange circles). Y represents VRC07-523LS and Y represents VRC07-523LS/DEL. Brackets are shown to indicate test conditions where cells were pre-incubated with the antibody and washed before adding to the ADCC assay. In some assays, additional NAb was added during the culture shown as +Y or +Y. Data are representative of at least 3 experiments. B) AUC for data in extended data figure 7a were calculated and analyzed by one way ANOVA with Tukey's correction. P values are presented as ns = not significant, * <0.05, ** <0.005, *** <0.0005 and **** <0.0001.

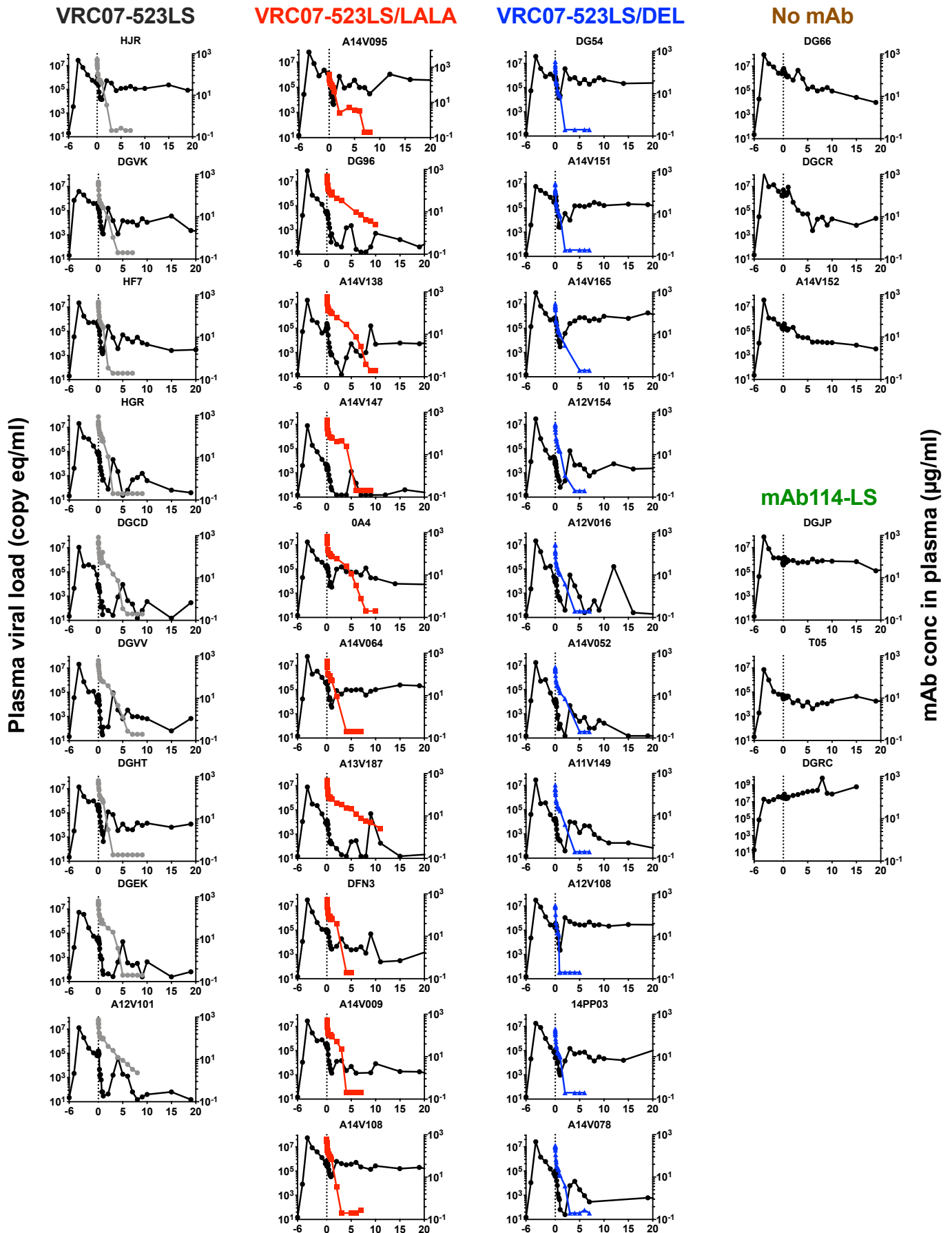


Figure S10: Long-term follow-up of plasma viral load. Rhesus macaques were challenged iv with SHIV_{SF162P3} at week -6 and treated with 20 mg/kg of NAb at week 0 (shown as vertical dotted lines). Viral load is shown as black lines (left Y-axis) and circulating NAb levels in colored lines (right Y axis).

A

SHIV SF162P3	MRVKGIRKNN	QHLWRGGTLL	LGMLMICSVA	EKLWVTVYVG	VPVWKEATT	LPCASDAKAY	DTEVHNWAT	HACVPTDPNP	QEIVLENVTE	NFNMWKNNMV	EQMHEDIISL	WDQSLKPCVK	LTPLCVTLHC	TNLENATNTT	SSNWKEMNRG	150
DGVK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HF7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HJR	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V064	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
DFN3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V151	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A11V149	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	N-----	-----
A12V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
SHIV SF162P3	EIKNCSFNVT	TSIGNKMQKE	YALFYKLDVV	PIDSDNTSYN	LINCNTSVIT	QACPKVSFEP	IPIHYCAPAG	FAILKNDKK	FNGSGPCINV	STVQCTHGIR	PVVSTQLLLN	GSLAEEGVVI	RSENFDTNVK	TIIVQLKESV	EINCTRPNNN	300
DGVK	-----	-----	-----	S--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HF7	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HJR	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V064	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V108	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
DFN3	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V151	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A11V149	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A12V108	-----	-----	-----	--N--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
SHIV SF162P3	TRKSIPIGPG	KAFYATGDII	GDIRQAHNCI	SGEKWNNTLK	QIVTKLQAF	ENKTIIVFKQS	SGGDPEIVMH	SFNCGGEFFY	CNSTQLFNST	WNNTIGPNNT	NGTITLPCRI	KQIINRWQEV	GKAMYAPPRI	GQIRCSSNIT	GLLLTRDGGR	450
DGVK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HF7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HJR	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V064	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
DFN3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V151	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A11V149	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A12V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----K
SHIV SF162P3	EVSNTTEIFR	PGGDMRDNN	RSELYKYKVV	KIEPLGVAPT	KAKRRVVQRE	KRAVTLGAVF	LGFLGAAGST	MGAASLTLTV	QARQLLSGIV	QQQNLLLRAI	EAQHLHLLQT	VWGIRQLQAR	VLAVERYLKD	QQLLGIWGCS	GKLICITAVP	600
DGVK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HF7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HJR	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V064	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
DFN3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V151	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A11V149	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A12V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
SHIV SF162P3	WNASWSNKS	LQIWNMTWM	EWEREIGNYT	NLIYTLIEES	QNOQEKNEQE	LLELDKWSL	WNWFDISKWL	WYIKIFIMIV	GGVLGLRIVF	TVLSIVNRVR	QGYSPLSFQT	RFPAPRGLDR	PEGIEEEGGE	RDRDRSRPLV	HGLLALIWDD	750
DGVK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HF7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HJR	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V064	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
DFN3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A14V151	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A11V149	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
A12V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
SHIV SF162P3	LRSCLFSPYH	RLRDLILIAA	RIVELLGRRG	WEALKYWGNL	LQYWIQELKN	SAVSLFGAIA	IAVAEGTDRI	IEVAQRIGRA	FLHIPRRIRQ	GLERILL	847	-----	-----	-----	-----	-----
DGVK	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
HF7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
HJR	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
A14V064	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
A14V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
DFN3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
A14V151	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
A11V149	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----
A12V108	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----T--	-----	-----	-----	-----	-----

SHV SF162P3	M R V K G I R K N Y S H L W R O G L L L O G B L M L T C S A V E K L W V Y E K L W Y V Y Y G V P A W R E A T I L T P C A D A R A Y S E V M N V W A T H A C V T P D P N P G E I L E E N V I E N P N M W R N N M V
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV149	
A1AV168	
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DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV149	
A1AV168	
SHV SF162P3	G A C I P A K V S F E P I P H Y C A P A G F A I L K C N D K K F I N G S I G P C I N V S T Y G C T H G I R P V V S T O G L L I N G S I L A E E G V V I R S E I N F I D O N Y K T I I V G L K E S E V E I N C T R P N N N
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV149	
A1AV168	
SHV SF162P3	T R K S I P I G P G K A F A T G I D I R O A H C N I S G E K W N N T L K O I V T K L O A O F E N K T I V F K O S G D P E I I V M H S F N C G G E F F Y C N S T O L F N S T W N N T I G P N N T
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV151	
A1AV149	
A1AV168	
SHV SF162P3	N G T I L P C R I K O I I N R R O E V G K A M Y A P P I R G O I R C S N N I T G L L I R D G R E V N T T E I F R P G G D M R D N W R S E L L Y K V V K I E L P O V A P T K K R R V V O R E
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV151	
A1AV149	
A1AV168	
SHV SF162P3	K R A V T L G A V F L G F L G A A S T M G A S L T V O A R L L S G I V O Q N N L L R A T E A O R L L O L T V W G K O L O A R V L A V E R Y K D O L L G I W G C S G K L I C T T A V P
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV151	
A1AV149	
A1AV168	
SHV SF162P3	W N A S W N K S L D O I W N N M T W M E W E R E I G N Y T N L I Y T L I E E S O N G O E K N E O L L E L L K W A S L W N W L D I S K W L W Y I K I F I M V G L V G L R I F T L S I V N R V R
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV151	
A1AV149	
A1AV168	
SHV SF162P3	G O G Y S P L S F G T R P P A P R G O L D R P E R P L L Y H G L A L A I W D L R S L C L F L B Y H N R L N D L I L I A A R I V E L L E L L O G R R O W E A L K Y W G N L L O G W I W I G E L N N
DOVK	
H7	
HJR	
A1AV164	
A1AV168	
DPN3	
A1AV151	
A1AV149	
A1AV168	
SHV SF162P3	S A V S L F G A I A V A E G T R I E V A Q R I O G R A F L H I P R R I R O G L E R T L L
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C

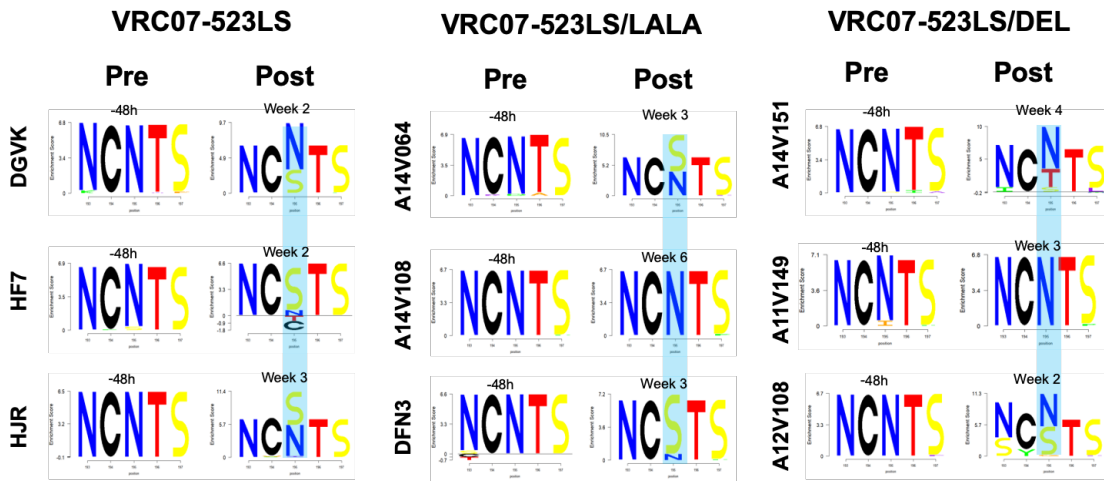


Figure S11: Env sequencing. Plasma virus was sequenced from 3 animals per group at 48h prior to NAb infusion and following rebound. A) Animal Ids are highlighted based on NAb group (black for VRC07-523LS, red for LALA and blue for DEL). Sequences are shown here as an alignment of pre-infusion consensus sequences with the Env of SHIV_{SF162P3}. B) Sites showing evidence of selection after NAb infusion at a Bonferroni-adjusted Fisher's exact test p value $< 10^{-12}$ are shown in blue, with contact sites for a related CD4bs NAb VRC01 shown in orange. C) Web logo plots are shown around the N197 site (blue highlight) at which significant selection was observed in most animals.