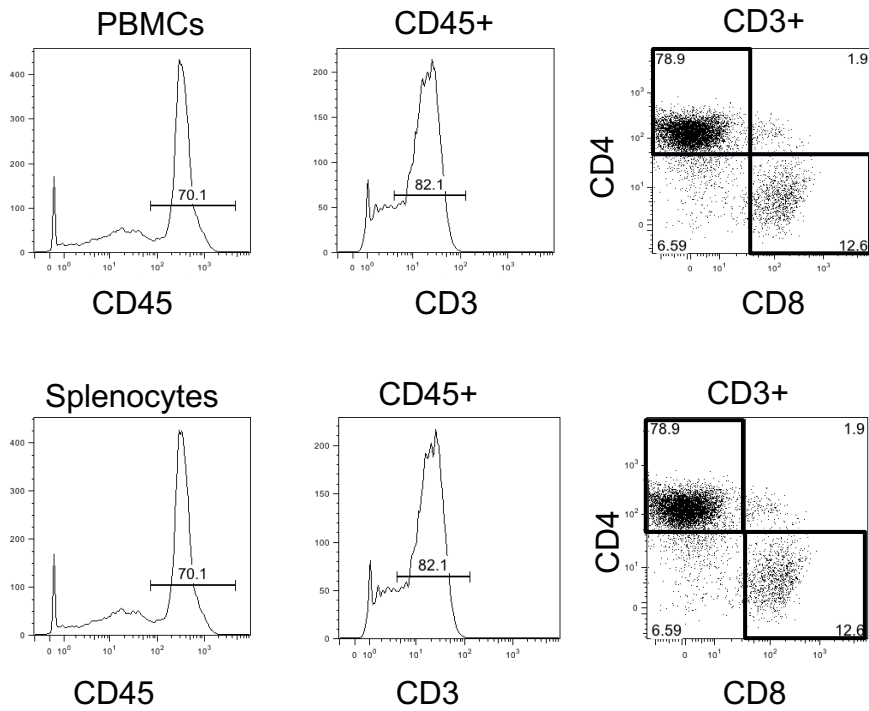# Supplementary Figure and Figure Legends
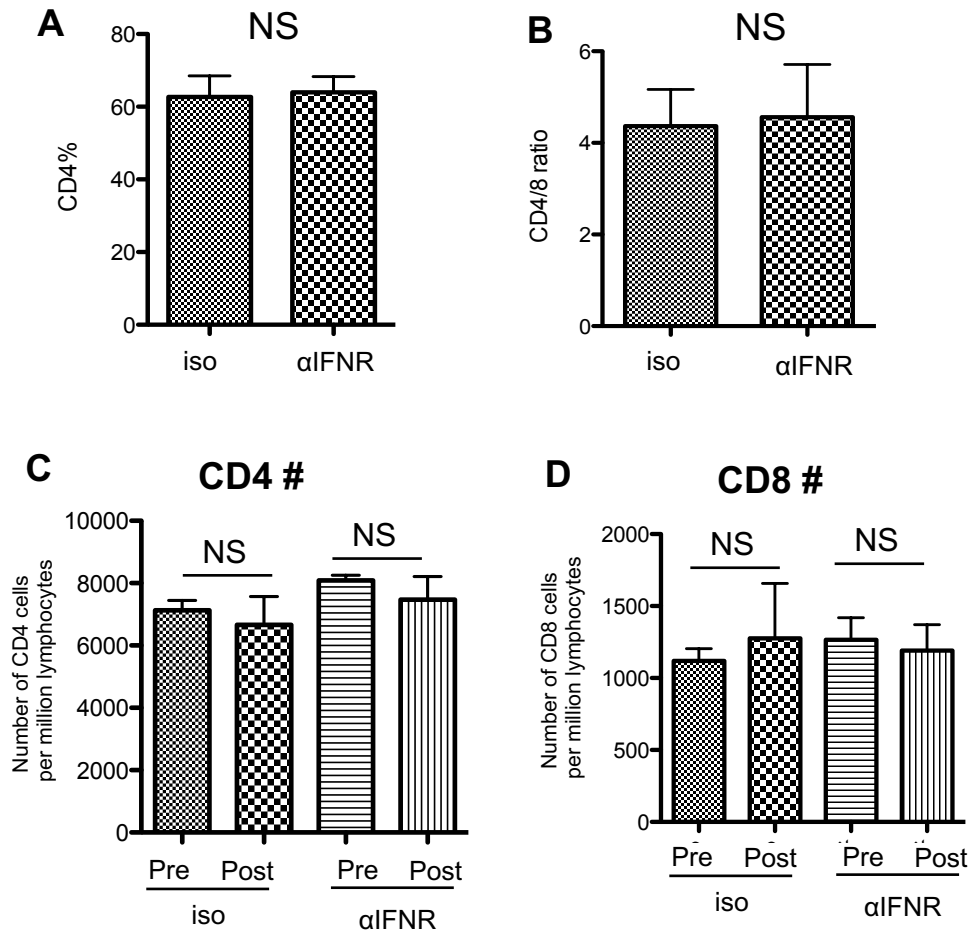
Supplementary Figure 1.

Supplementary Figure 1. Representative plots of PBMCs and splenocytes harvested from uninfected humanized NSG BLT mice. Mice used in the study all had >50% human lymphoctyes for PBMCs and splenoytes. More than 1000 events were analyzed for each of the flow plots shown. These results are consistent with experiments performed more that 30 times.
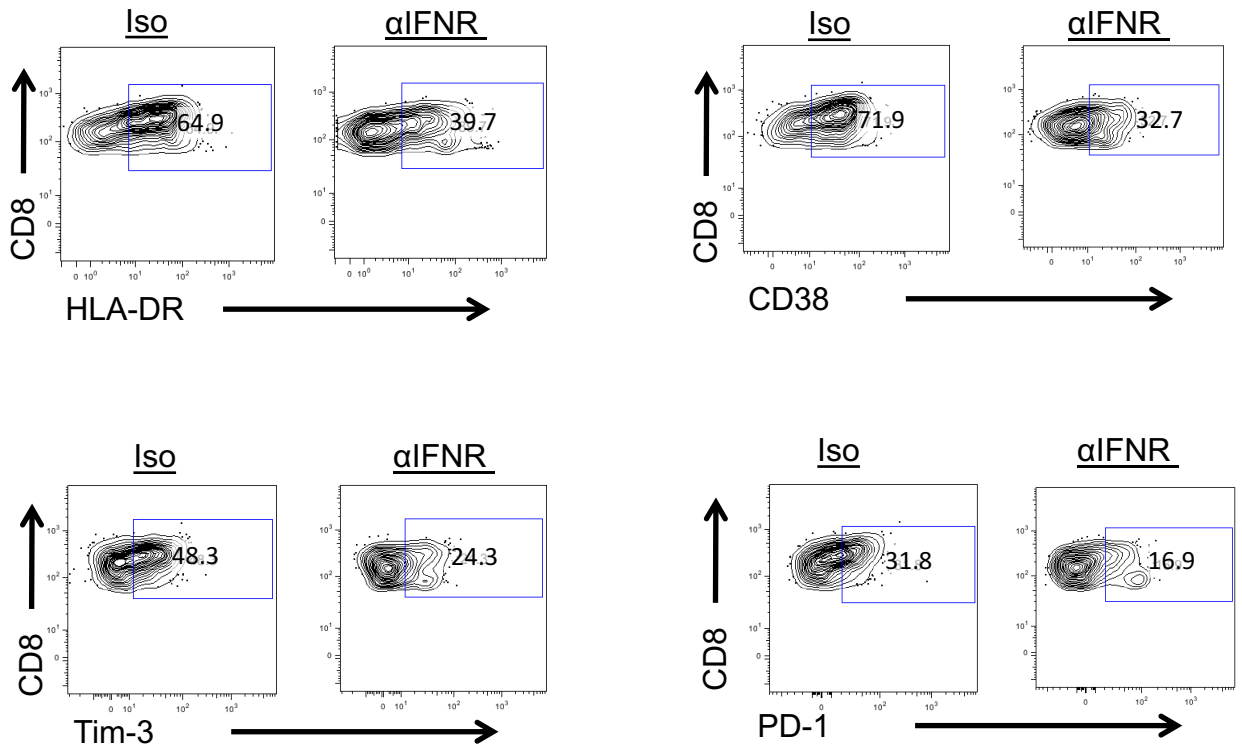
Supplementary Figure 2.

A CD4+ cells

B CD8+ cells

C
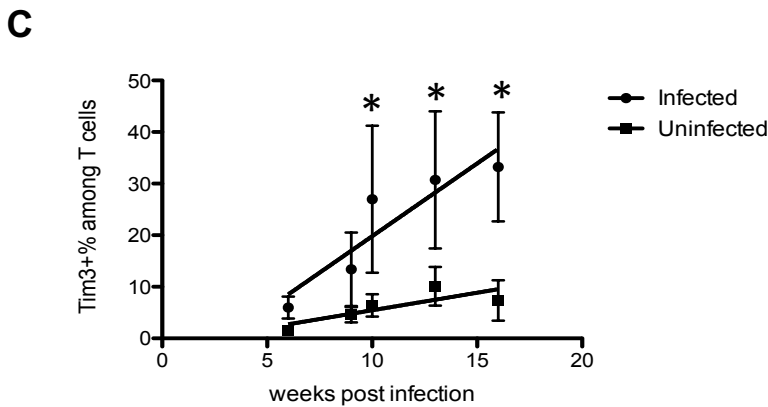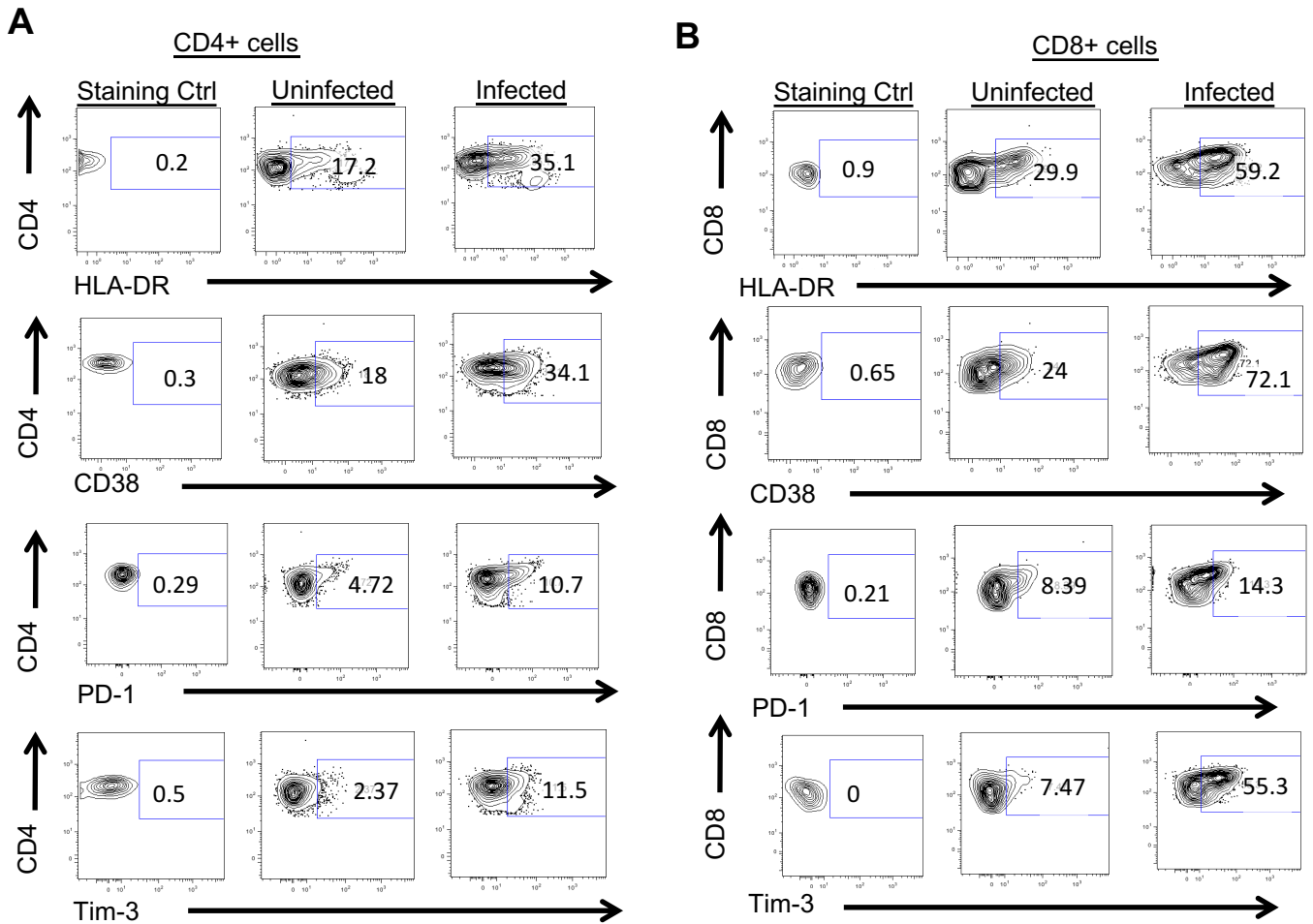
Supplementary Figure 2. Representative flow cytometry staining plots of HLA-DR, CD38, PD-1 and Tim-3 expression on human **A)** CD4 and **B)** CD8 cells from chronically (13 weeks) HIV infected or uninfected mice PBMCs. Staining controls (Ctrl) were done with human PBMCs that were stained with CD4 and CD8 but not with the marker of interest. More than 1000 events were analyzed for each of the plots shown and the flow cytometry based experiments have been repeated more than 3 times. **C)** Change of Tim-3 expression among T cells over time in infected and uninfected mice (n=4)(* p<0.05, **p<0.005, Mann-Whitney *U* test) Data represent mean ± SEM.
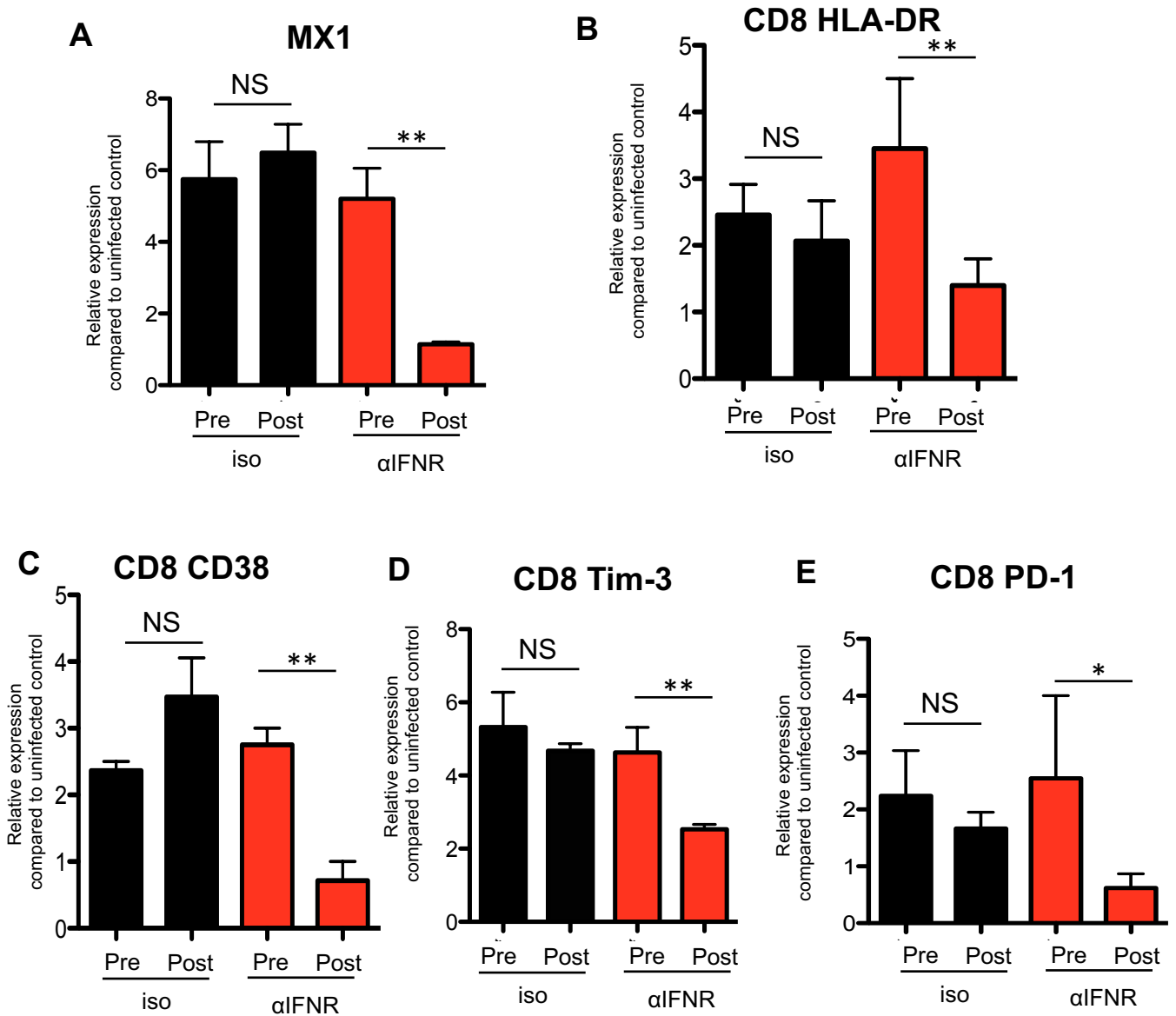
Supplementary Figure 3.

Supplementary Figure 3. 8 days of Type I IFN blockade in vivo does not significantly affect CD4%, CD4/8 ratios or the number of CD4, CD8 cells in the PBMCs. **A)** CD4 T cell percentages among lymphocytes in infected mice after treatment. **B)** CD4+ T cells to CD8+ T cell ratios of infected mice after treatment. n=4-10 per group. **C)** Number of CD4+ cells before and after treatment from infected mice. n=4-10 per group. **D)** Number of CD8+ cells before and after treatment from infected mice. (NS: not significant, Mann-Whitney U test) Data represent mean ± SEM.

Supplementary Figure 4.

Supplementary Figure 4. Type I IFNR blockade antibody effectively lower activation and exhaustion marker expression on CD8+ cells as compared to isotype controls. Representative flow cytometry plots showing HLA-DR, CD38, Tim-3 and PD-1 expression on CD8+ T cells from HIV infected mice treated with isotype or type I IFNR antibody. The flow cytometry experiments have been conducted more than 3 times.

Supplementary Figure 5. Type I IFNR blockade antibody, but not isotype control antibody effectively lower ISG expression and exhaustion marker expression on CD8 cells. A) Type I IFN signature gene MX1 expression before and after isotype or type I IFNR blockade treatment in PBMCs. n=3-4 per group. **B-E)** HLA-DR CD38, Tim-3, PD-1expression on CD8 cells in PBMCs before and after isotype or type I IFNR blockade treatment. n=3-4 per group (NS: not significant, * p<0.05, **p<0.005, Mann-Whitney *U* test). Data represent mean ± SEM.
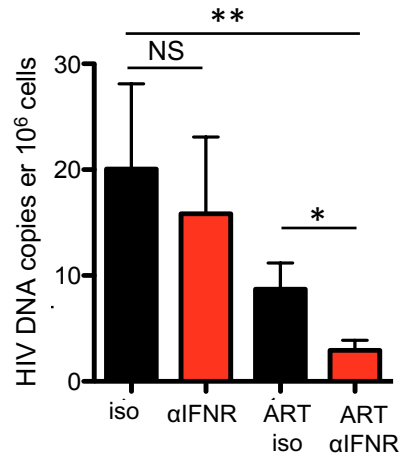
Supplementary Figure 6.

A
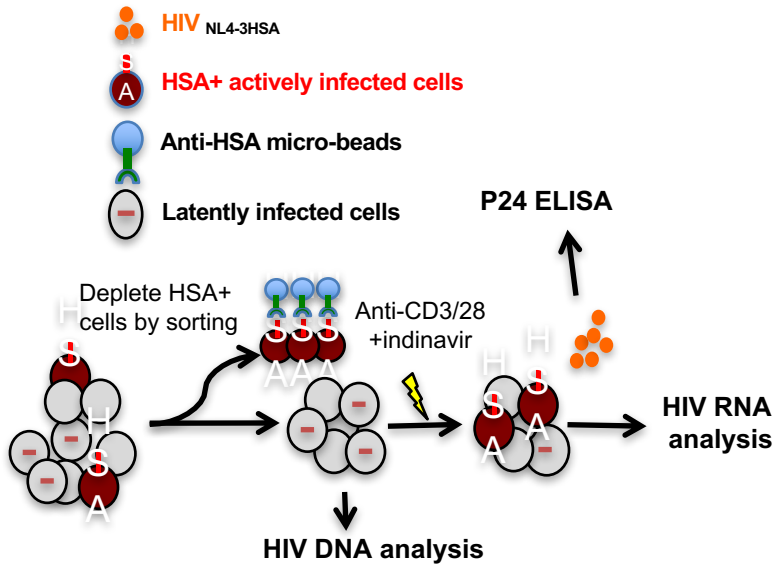
B

C
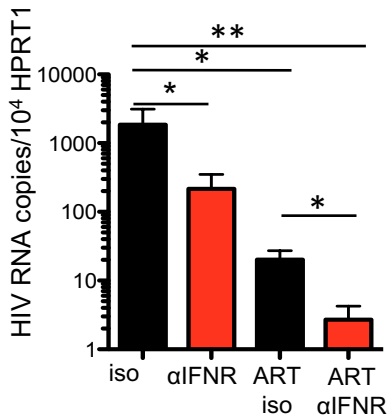
Supplementary Figure 6. Assay for reactivatable virus. A) Schematic outline of virus reactivation assay. HSA positive virally expressing cells were depleted using anti-HSA antibody and microbeads. The remaining cells that contain persistently infected cells were stimulated with anti-CD3 and anti-CD28 antibodies in the presence of indinavir to prevent viral spread. HIV DNA, RNA level of the HSA negative cells were measured by RT-PCR. Viral production after anti-CD3/anti-CD28 stimulation was measured by HIV p24 production in the supernatant by ELISA. **B)** HIV RNA copies per 10^4 HPRT1 from sorted and stimulated HSA- cells following the indicated treatment. n=3-7 per group **C)** HIV DNA copies per million cells (measured by β globin expression) from sorted HSA- cells as measured by real time PCR. n=3-7 per group.(NS: not significant; * p<0.05, **p<0.005, Mann-Whitney *U* test). Data represent mean ± SEM.

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