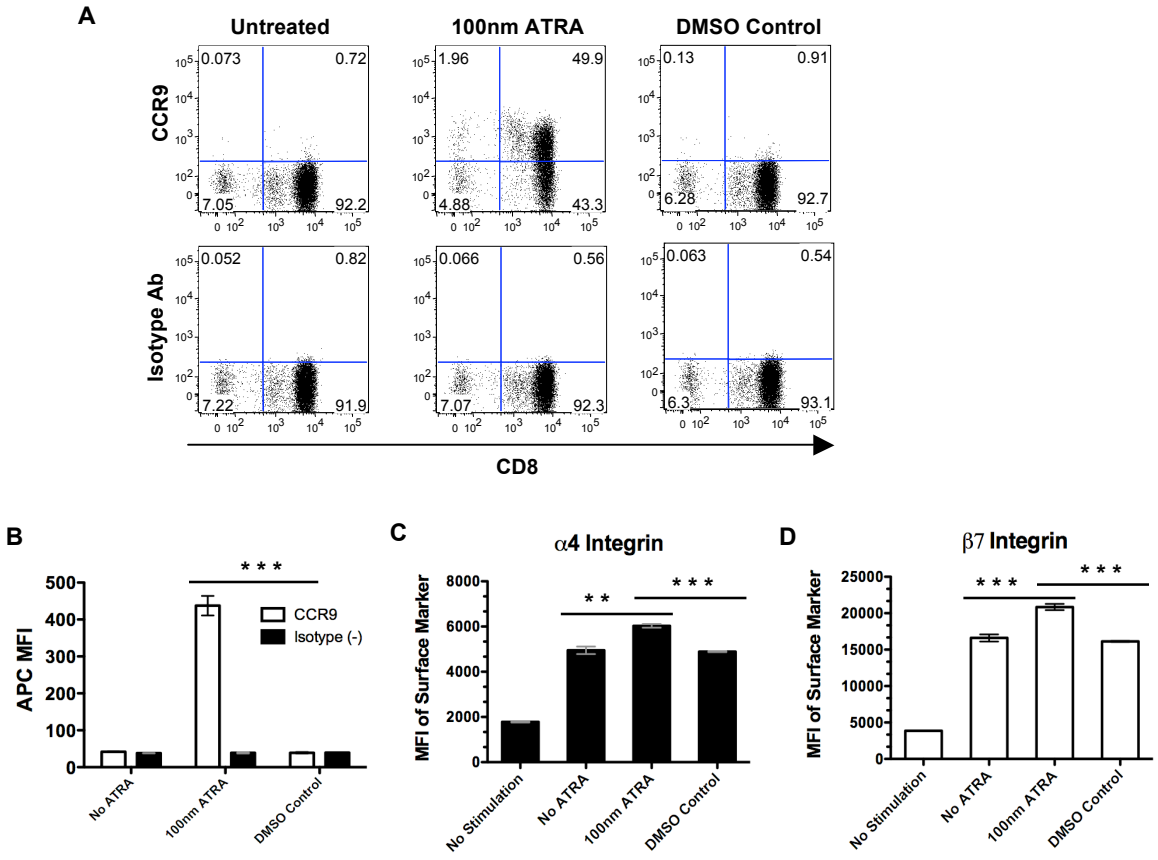

Fig. S1. ATRA enhances the expression of mucosal-homing molecules on activated human CD8$^+$ T cells. Naïve human CD8$^+$ T cells isolated from PBMC of healthy HLA- A*0201$^+$ donors were stimulated with anti-CD3/CD28 beads. (A) Representative flow cytometric plots depicting surface expression of CCR9 on CD8 T cells on day7. Numbers indicates the percentage of cells in each quadrant. (B, C, D) Mean Fluorescence Intensity (MFI) of (B) CCR9, (C) α4 integrin and (D) β7 integrin on anti-α4 and anti-β7 dual-positive CD8$^+$ T cells. Data shown as mean±SEM of two experiments with triplicate/sample/experiment. Student *t* test: ** p<0.01, *** p<0.001

Supplemental Figure 1

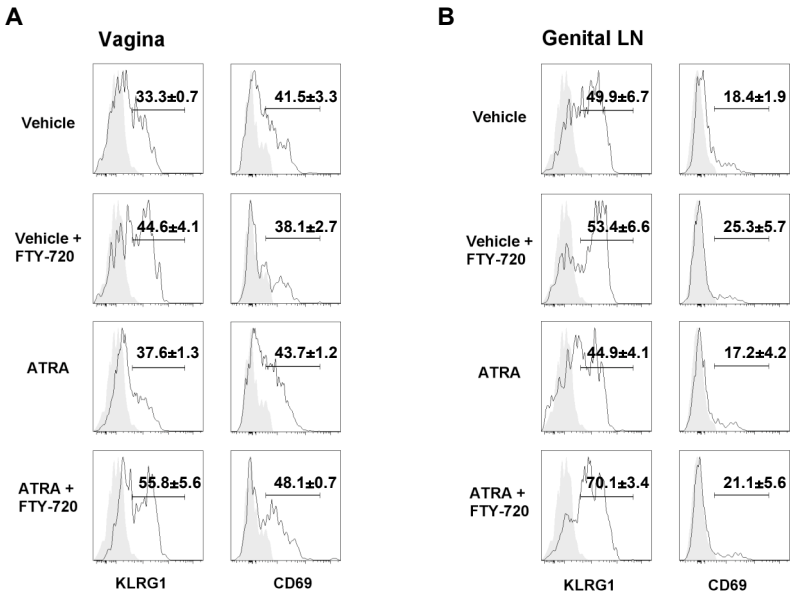

Fig. S2. *T cells in vaginal sites from ATRA-treated and control immunized mice were more activated following vaginal viral challenge and FTY-720 treatment.* Mice immunized with Ad5gp in the presence of ATRA or vehicle were menstrually synchronized on day35 for 5 days and then infected with VVgp intravaginally followed by FTY-720 treatment for 4 days. The phenotype of gp33/D^b-tetramer$^+$$CD8^+$ T cells was assessed in (A) vagina and (B) gLN. Solid line represents gp33/D^b-tetramer$^+$$CD44^{hi}$$CD8^+$ T cells overlaid on naïve $CD8^+$ T cells shown as grey area. Number indicates the percentage of cells positive for stained surface markers shown as mean±SEM of 3~5 mice/group.

Supplemental Figure 2