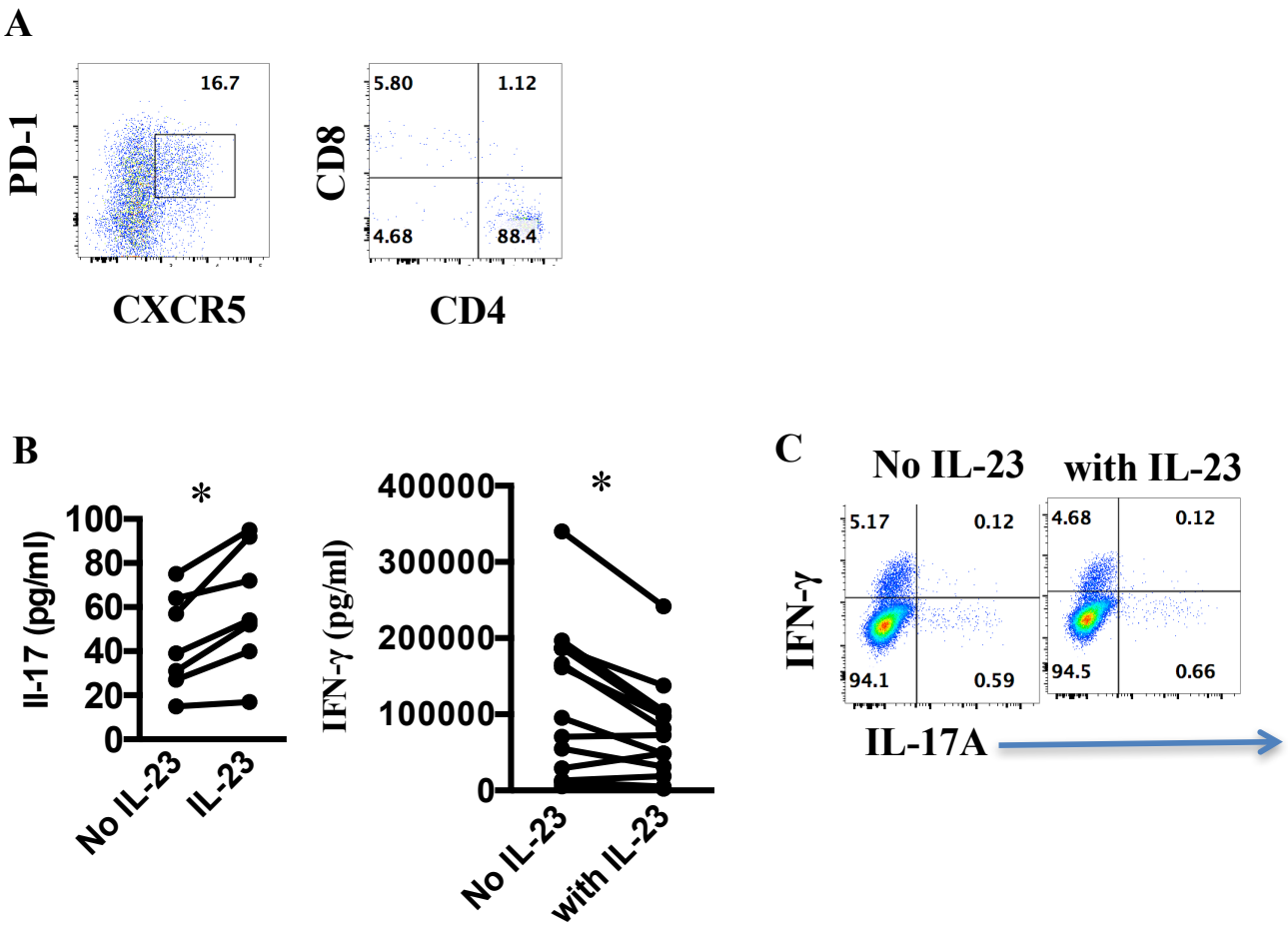
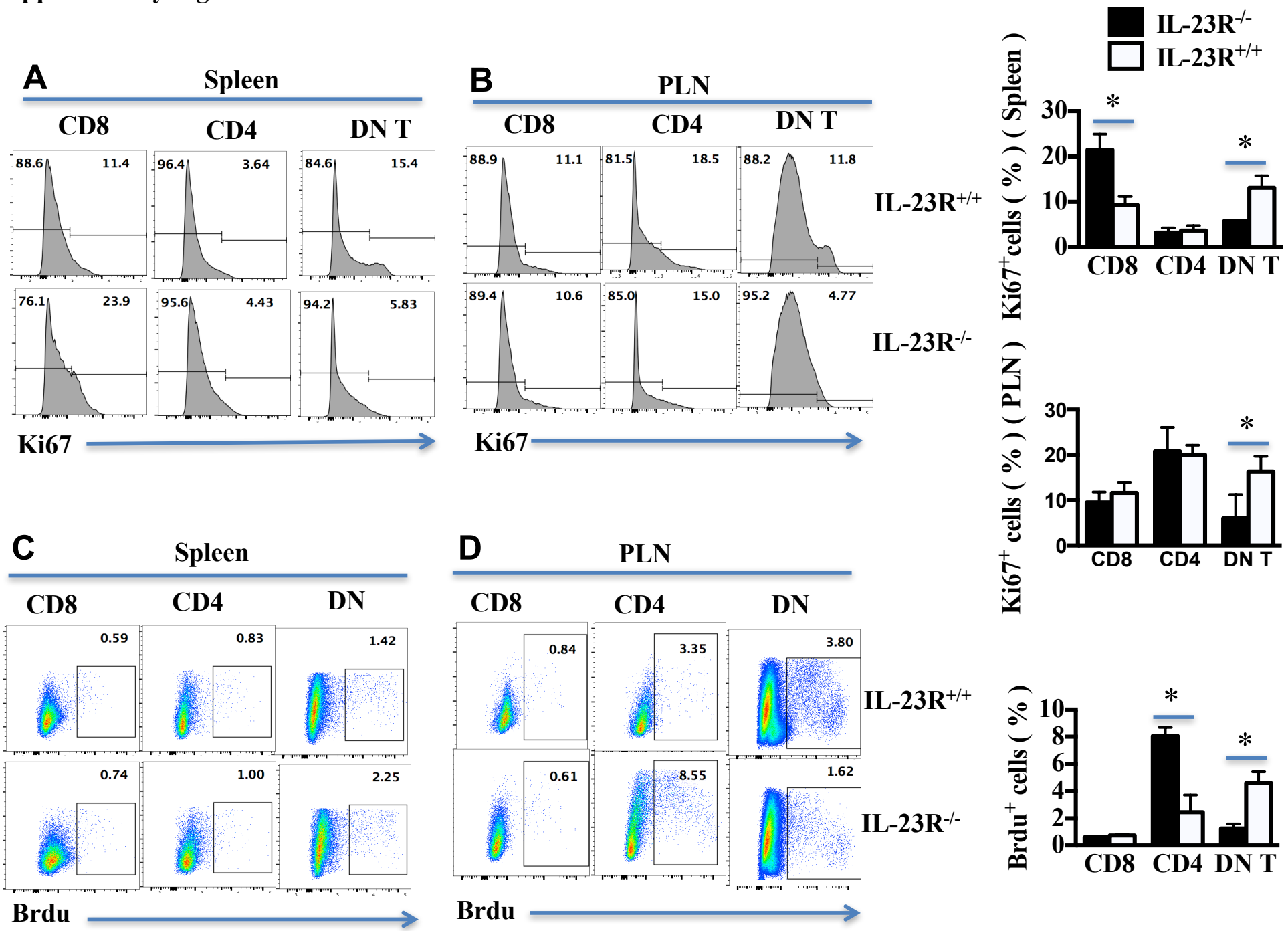
Supplementary Figure 1



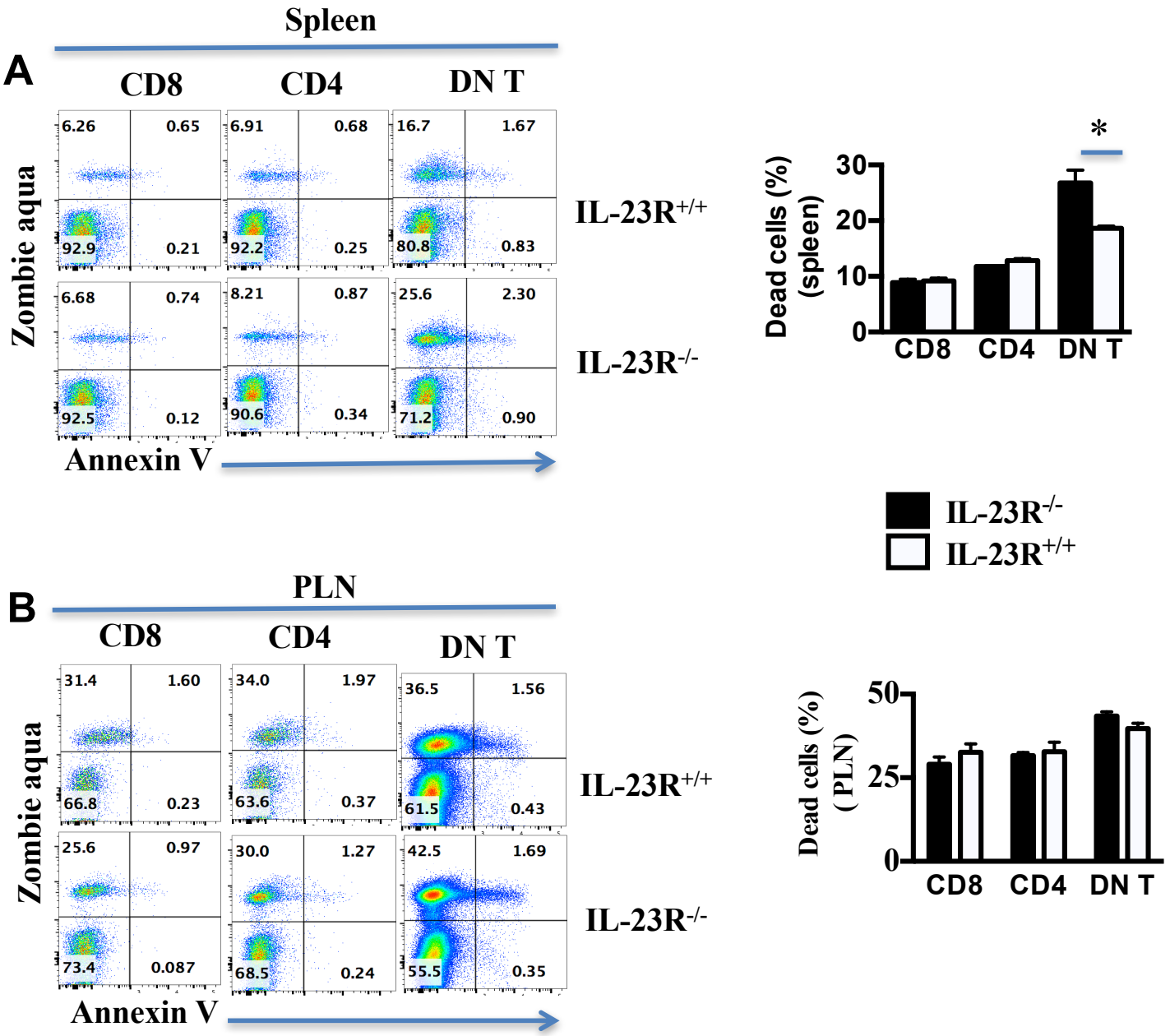
Supplementary Figure 1. IL-23 induced IL-17 and suppressed IFN-γ production by SLE T cells
SLE T cells were stimulated with anti-CD3/CD28 antibodies with or without IL-23 for 5 days. (A) Cells that stained for the Tfh markers ($CD3^+PD\text{-}1^+CXCR5^+$) (left), and were analyzed for expression of CD4 and CD8 surface molecules (right) (representative experiment from 5 patients). (B) After 5 day of culture, IL-17A and IFN-γ were measured in supernatants by ELISA. (C) PMA, Ionomycin and Brefeldin A were added 4 hours prior to harvesting the cultured cells and the expression of IL-17A and IFN-γ was analyzed by flow-cytometry (gating on live $TCR\alpha\beta^+$T cells). (representative experiment and cumulative data from 5 patients). * $p < 0.05$, ** $p < 0.01$. Error bars represent SD).

Supplementary Figure 2



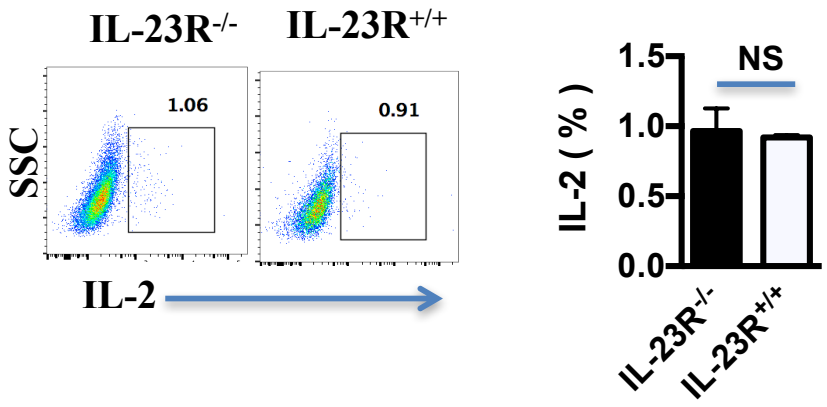
Supplementary Figure 2. IL-23R signaling promoted the proliferation of DN T cells.
(A-B) Cells isolated from the spleen (A) and lymph nodes (B) of IL-23R$^{-/-}$MRL.*lpr* and IL-23R$^{+/+}$MRL.*lpr* mice were stained for TCRβ, CD4, CD8 followed by intracellular staining for Ki67 (representative experiment and cumulative results from 3 mice). (C-D) IL-23R$^{+/+}$MRL.*lpr* and IL-23R$^{-/-}$MRL.*lpr* mice were injected with 1mg BrDU per mouse. 3 hours later, the expression of BrdU was measured with flow cytometry (see Materials and Methods). The BrdU expression on CD4, CD8 and DN T cells from spleen (C) and lymph nodes (D) is shown here (cumulative results from 3 mice). *= $p < 0.05$. Error bar represents SD. Data are representative of three independent experiments.

Supplementary Figure 3



Supplementary Figure 3. IL-23R deficiency increased DN T cell death.
Splenocytes and lymph node cells were prepared from IL-23R$^{-/-}$MRL.*lpr* mice and IL-23R$^{+/+}$MRL.*lpr* mice, and stained with CD3, CD4, CD8, Annexin V and Zombie aqua. (A) Splenocytes are shown here (representative plot of 3 mice-left panel and cumulative results-right panel). (B) Peripheral lymph node (PLN) cells are shown here (representative plot of 3 mice-left panel and cumulative results-right panel). *= $p < 0.05$. Error bar represents SD. Data are representative of three independent experiments.

Supplementary Figure 4



Supplementary Figure 4. IL-23R deficiency does not alter IL-2 production by DN T cells
Sorted DN T cells were prepared from spleens of IL-23R$^{+/+}$ or IL-23R$^{-/-}$ MRL.*lpr* mice and were stimulated with anti-CD3/CD28 antibodies for 16 hours. IL-2 was measured by flowcytometry (representative plot of 3 mice-left panel and cumulative results-right panel). Error bar represents SD. Data are representative of three independent experiments.