

## Supplementary Figure Legends

### Supplemental Figure 1. No defect in *i*NKT cell development in the absence of TXK.

A) Thymocytes (top) and splenocytes (bottom) from WT and *Txk*<sup>-/-</sup> mice were gated on *i*NKT cells (tetramer<sup>+</sup>/TcRβ<sup>+</sup>) and analyzed for the expression of CD44 and NK1.1. Percentages of CD44<sup>-</sup>NK1.1<sup>-</sup>, CD44<sup>+</sup>NK1.1<sup>-</sup> and CD44<sup>+</sup>NK1.1<sup>+</sup> *i*NKT cells were determined. **Expression of TXK transgene.** B) mRNA from sorted thymic and splenic *i*NKT cells from WT or *Tg(CD2-Txk)Itk*<sup>-/-</sup> mice were analyzed for expression of endogenous *Itk* (WT) or TXK as described in the materials and methods section.

### Supplemental Figure 2. TXK over expression does not restore thymic cellularity in the absence of ITK.

A) Thymocytes from WT, *Itk*<sup>-/-</sup> or *Tg(CD2-Txk)Itk*<sup>-/-</sup> mice were analyzed for CD4 and CD8. B) Analysis of percentage and numbers of double positive (DP) CD4 or CD8 single positive thymocytes in the indicated mice. \*p<0.05.

### Supplemental Figure 3. No difference in expression of IL-7Rα (CD127) or IL-2Rγ (CD132) expression on *i*NKT cells from WT, *Itk*<sup>-/-</sup> and *Tg(CD2-Txk)Itk*<sup>-/-</sup> mice.

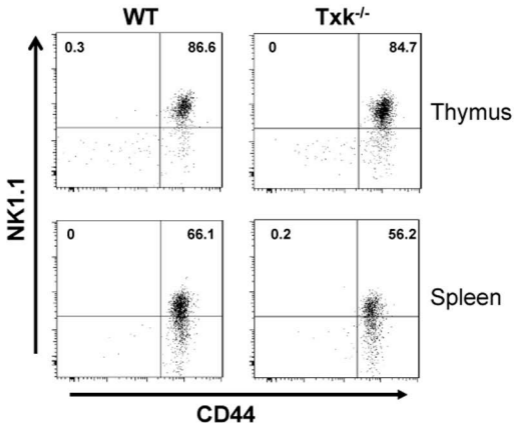
Thymocytes and splenocytes from WT, *Itk*<sup>-/-</sup> and *Tg(CD2-Txk)Itk*<sup>-/-</sup> mice were gated on *i*NKT cells and analyzed for the expression of IL-7Rα (CD127) or IL-2Rγ (CD132). Total thymocytes or splenocytes were used as control (grey).

### Supplemental Figure 4. Over expression of TXK regulates expression of pro- and anti-apoptotic genes in *Itk*<sup>-/-</sup> conventional naïve CD4<sup>+</sup> T cells.

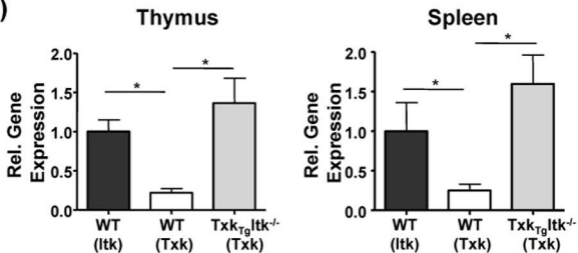
Relative gene expression levels of Fas, Bax, Bad, Bcl-2, Bcl<sub>XL</sub>, Bcl-6 and p53 in WT and *Itk*<sup>-/-</sup> naïve CD4<sup>+</sup>

conventional T cells thymus and spleen were determined by real-time quantitative PCR  
(\*p<0.05 vs. WT).

A)

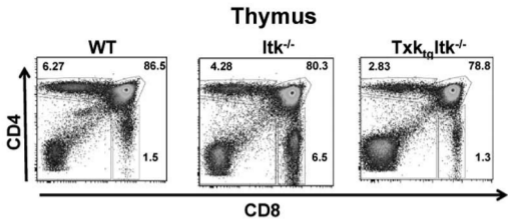


B)

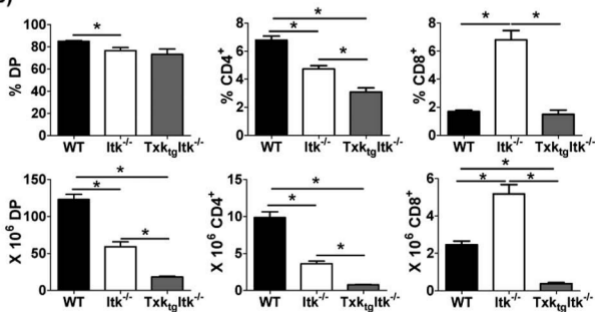


Supplemental Figure 1

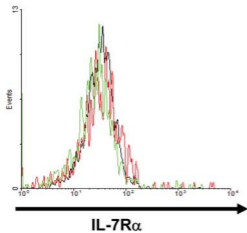
A)



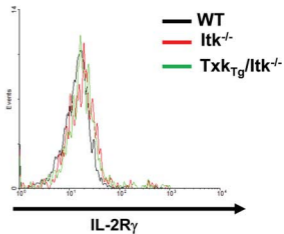
B)



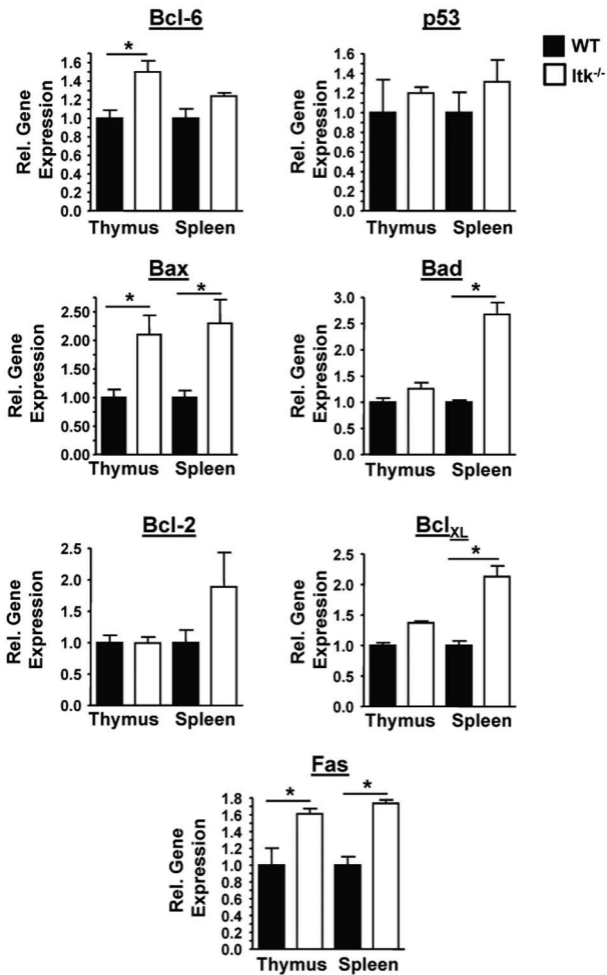
## Thymus



## Spleen



Supplemental Figure 3



Supplemental Figure 4