

Figure S1. Gating strategy to identify T-cell subsets. A) Representative flow cytometric analysis to identify T-cell subsets of WT mice stained with antibodies against CD25, CD44, CD117, CD4, CD8, CD69, TCR $\beta$ . Subsets were defined as: ETPs (CD117<sup>hi</sup>CD25<sup>-</sup>CD44<sup>+</sup>), DN2a (CD117<sup>hi</sup>CD25<sup>+</sup>CD44<sup>+</sup>), DN2b (CD117<sup>lo</sup>CD25<sup>+</sup>CD44<sup>+</sup>), DN3a (CD25<sup>+</sup>CD44<sup>-</sup>CD28<sup>-</sup>) and DN3b-c (CD25<sup>+</sup>CD44<sup>-</sup>CD28<sup>+</sup>), pre-selection DP (CD4<sup>+</sup>CD8<sup>+</sup>CD69<sup>-</sup>TCR $\beta$ <sup>+</sup>), SP4 (TCR $\beta$ <sup>+</sup>, CD4<sup>+</sup>) and SP8 (TCR $\beta$ <sup>+</sup>, CD8<sup>+</sup>).

## Figure S2



Figure S2. Characterization of BM-derived T-lineage progenitors in miR-21deficient mice. A) Representative flow cytometric analysis of lineage-depleted BM from WT and miR-21<sup>-/-</sup> mice stained with antibodies against Sca-1, CD117 and CD135 to identify HSCs and MPPs. Numbers adjacent to gates represent frequencies relative to parent gate. B) Representative flow cytometric analysis of lineage-depleted BM from WT and miR-21<sup>-/-</sup> mice stained with antibodies against CD135, CD127, Sca-1 and CD117 to identify CLPs. Numbers adjacent to gates represent frequencies relative to parent gate. C) Statistical analysis of flow cytometric results shown in A) and B). Each dot represents one mouse, n = 5 per genotype.

Figure S3



Figure S3. Alternative lineage fate decisions are not promoted in the absence of miR-21. A) Sorted DN2a and DN2b cells were cultured on OP9-GFP cells for up to 15 days. Generation of T, NK and B cells was assessed by flow cytometry at indicated periods of time. Bar graphs show pooled data from two independent experiment, n = 4-7 mice per group.

Figure S4





Figure S4. Negative selection is not altered in the absence of miR-21. A) Representative flow cytometric analysis of Ca-ratio over time of DP, SP4 and SP8 thymocytes stimulated with anti-CD3 and ionomycin as a control. B) Total cellularity of thymi from WT and miR-21<sup>-/-</sup> mice, 48 hours post injection with either PBS or  $\alpha$ -CD3, n = 6 for each genotype. Pooled data of two independent experiments.

## Figure S5





Figure S5. Apoptosis of SP T cells *in vitro* is not disrupted in miR-21-deficient mice. A) Representative flow cytometric analysis of thymi from WT and miR-21<sup>-/-</sup> mice stained with antibodies against CD4, CD8 as well as Propidium iodide (PI) and Annexin V (AxV). Numbers adjacent to gates represent frequencies of early/mid (defined as PI<sup>-</sup>AxV<sup>+</sup>) and late apoptotic cells (defined as PI<sup>+</sup>AxV<sup>+</sup>). Frequencies were determined at indicated days. B) Statistical analysis of flow cytometric results shown in A). Each dot represents one mouse, n = 5 per genotype.