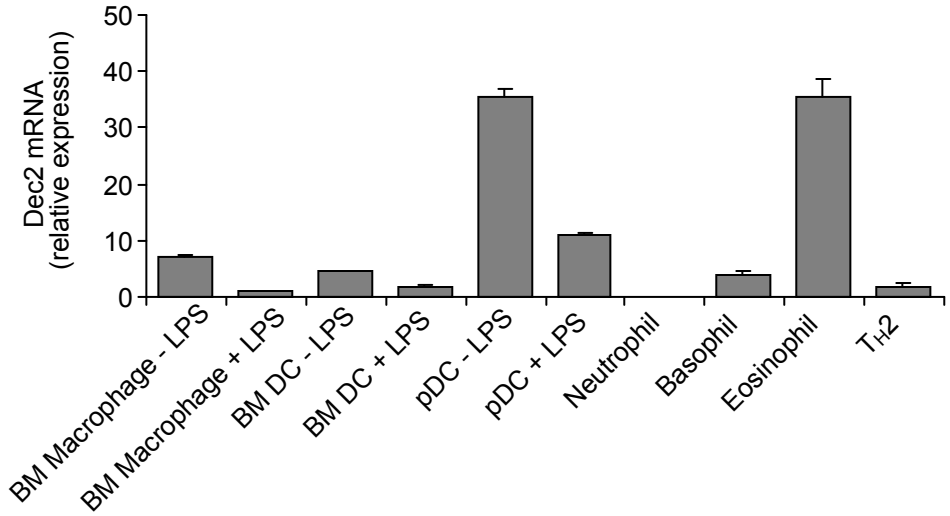
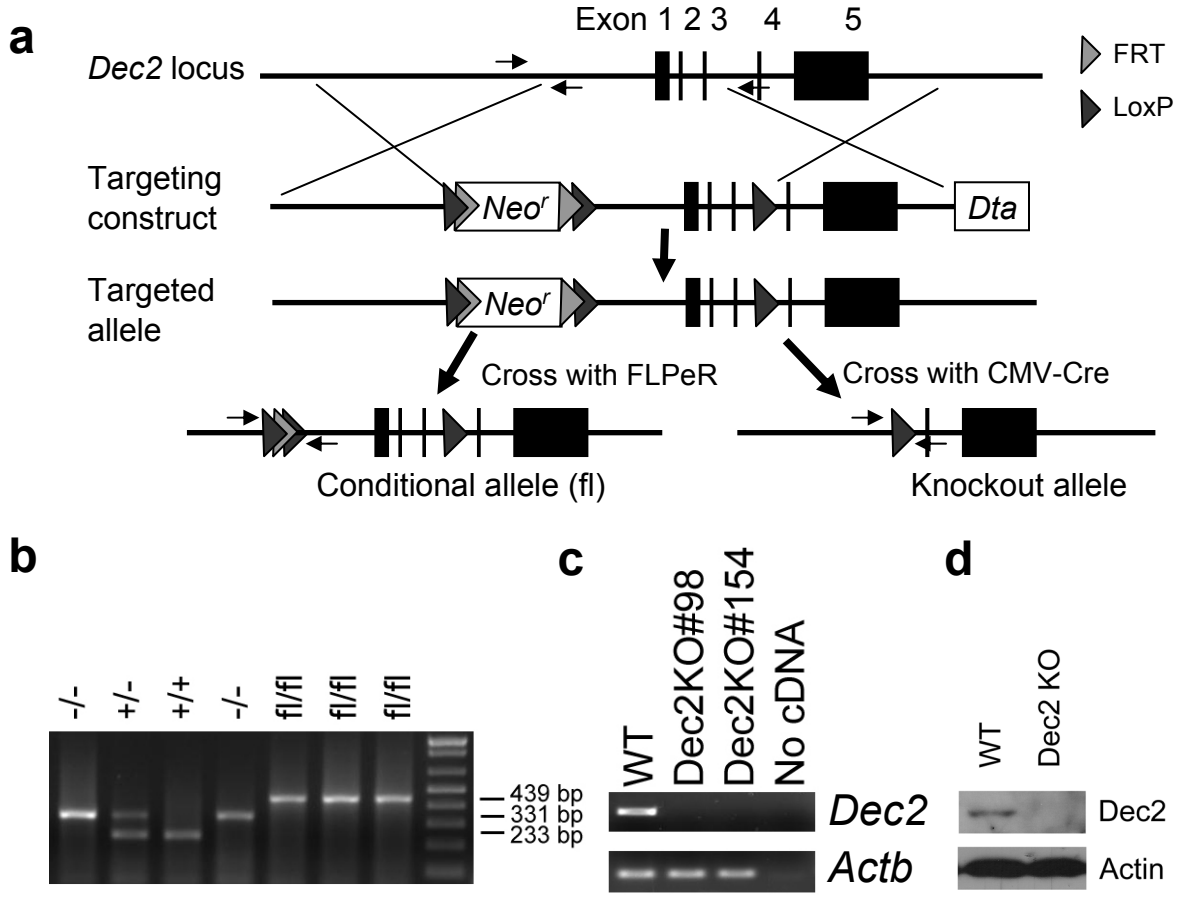
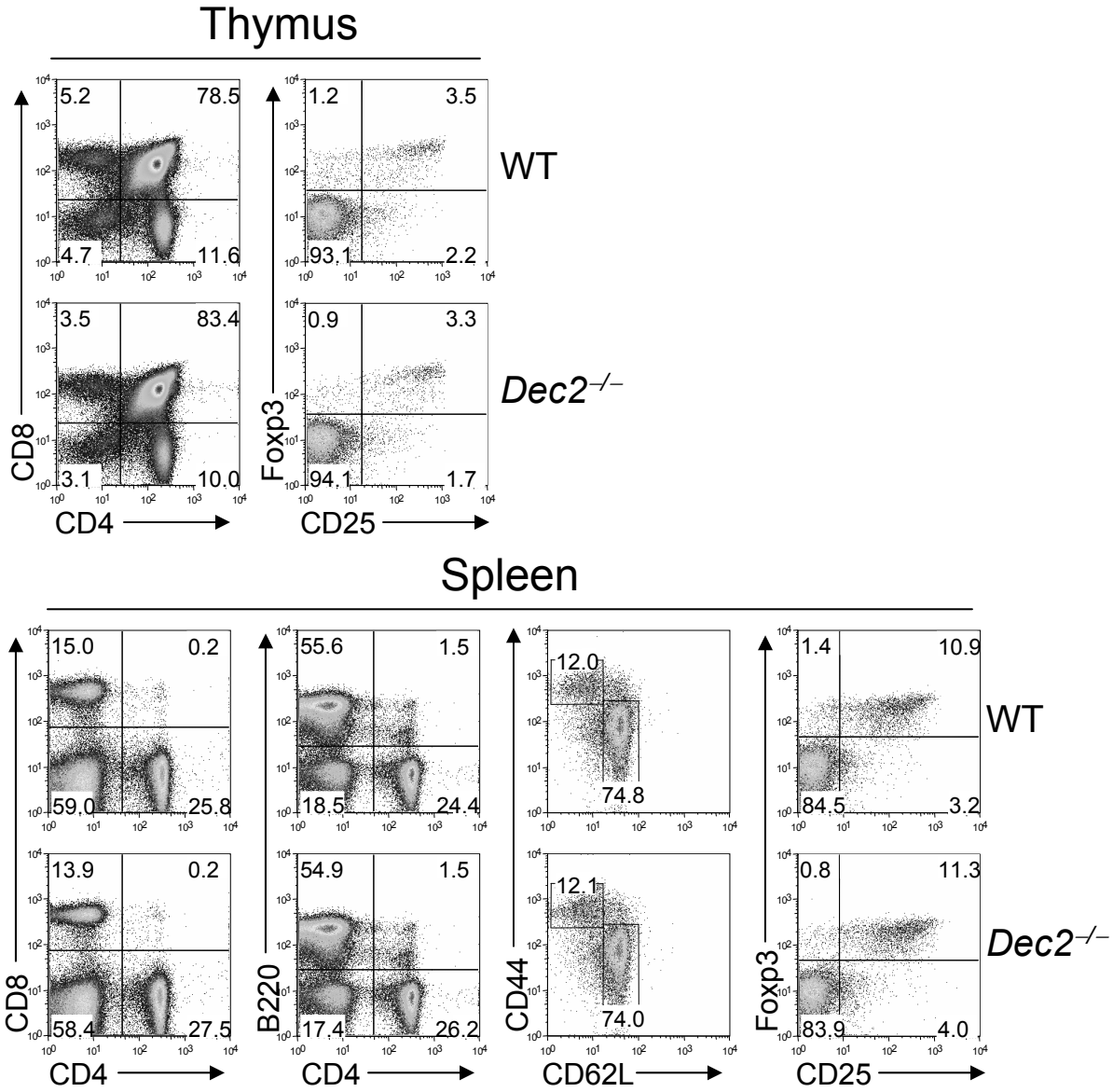


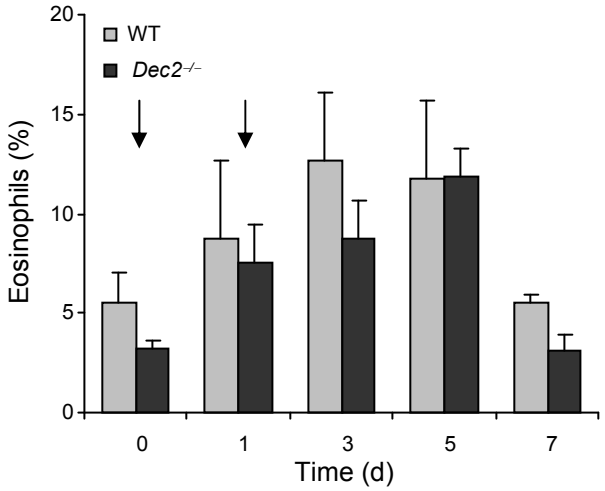
Supplementary Figure 1. Dec2 expression in various immune cells. LPS, lipopolysaccharides.



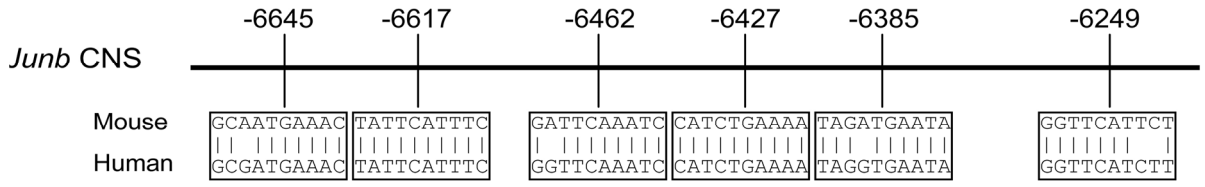
Supplementary Figure 2. Generation of *Dec2*$^{-/-}$ mice. a) Targeting strategy. **b**) Genotyping of +/+, +/-, -/- and floxed fl/fl mice. **c**) *Dec2* mRNA expression in *Dec2*$^{-/-}$ mice. RNA was prepared from bone marrow and Dec2 expression was assessed by RT-PCR. **d**) Dec2 protein expression in splenocytes was assessed by immunoblot.



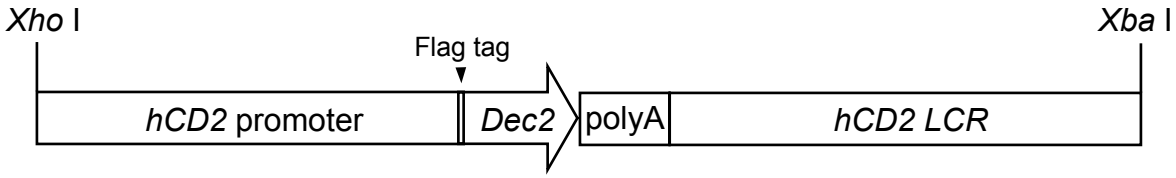
Supplementary Figure 3. CD4$^+$ and CD8$^+$ T cell compartments in thymus and spleen of WT and *Dec2*$^{-/-}$ mice. Data shown are a representative of 4 individual mice in each group with matched age and sex. Numbers in dot plots indicate percentage.



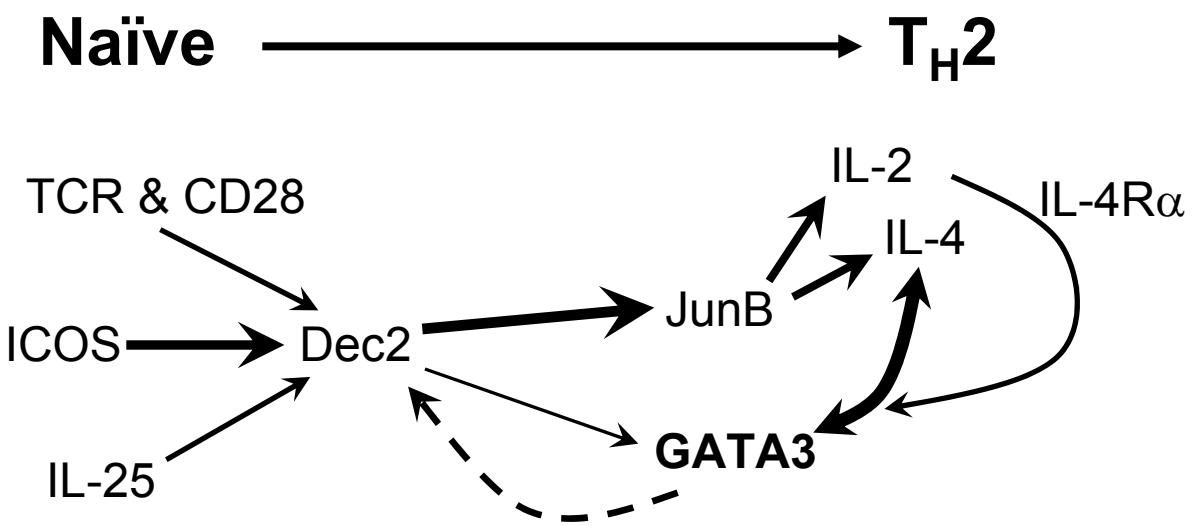
Supplementary Figure 4. Blood eosinophil release in response to IL-5. *Dec2*$^{-/-}$ and WT mice were injected i.p. on days 0 and 1 with recombinant murine IL-5 (300 ng/mouse, *n* = 3 in each group) and blood eosinophils were evaluated by blood smears with Wright-Giemsa stain at various time points. Data shown are percent of eosinophils among total nucleated cells. Arrow, injection of IL-5.



Supplementary Figure 5. Conserved Dec2 binding sites in the *Junb* conserved non-coding sequence (CNS). The positions are relative to the *Junb* transcription start site (GenBank Acc. # NM_008416.1).



Supplementary Figure 6. Generation of *CD2-flag-Dec2* transgenic mice. Flag-Dec2 cDNA was inserted into phCD2 containing a human CD2 mini-locus. The transgene construct was isolated by digestion with *Xho*I and *Xba*I and was microinjected into B6 fertilized ovocytes to generate transgenic founders.



Supplementary Figure 7. Feed-forward regulation of Th2 differentiation by Dec2. Induction of gene expression is shown by thickness of the lines. Dotted line indicates indirect effect.