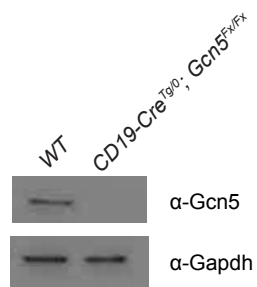
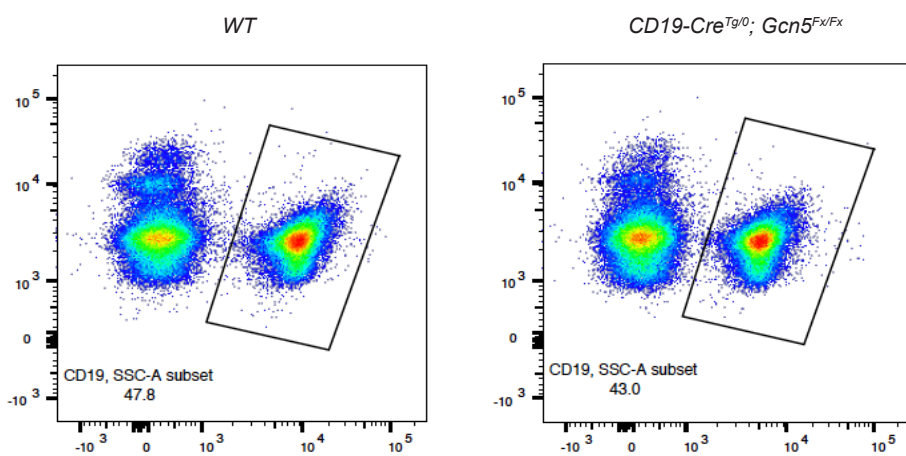
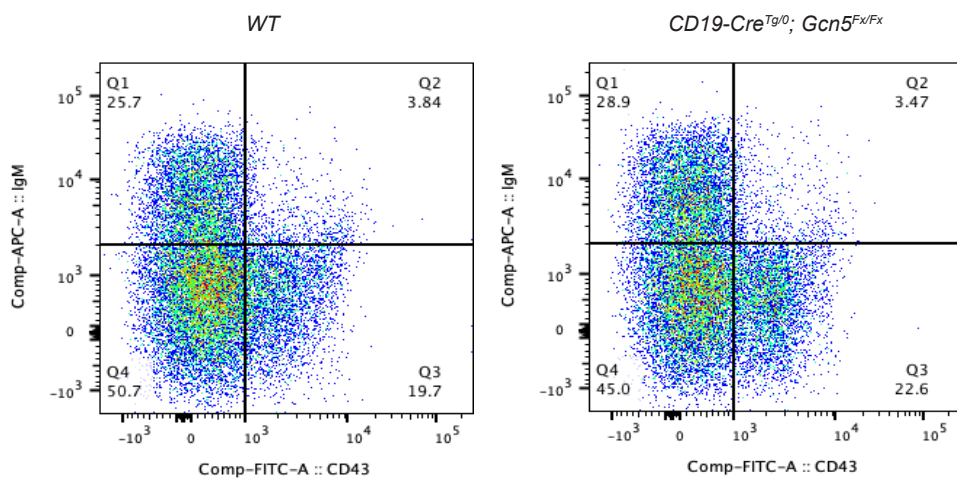
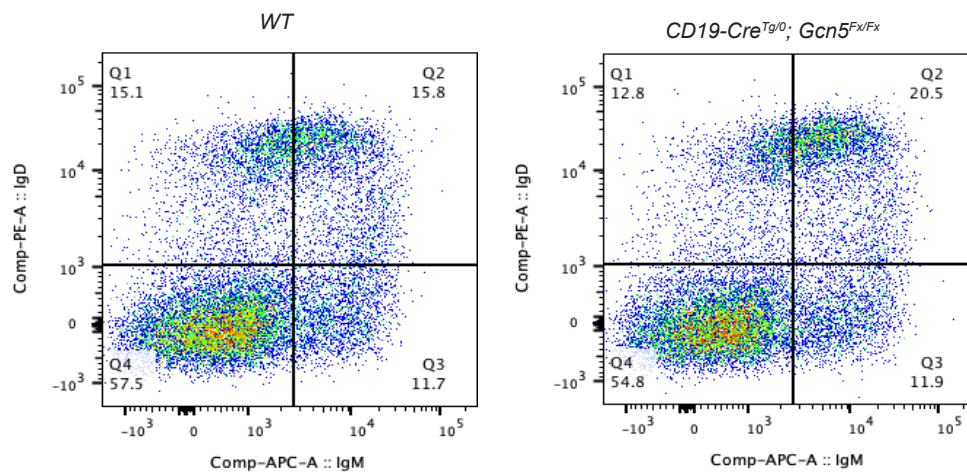
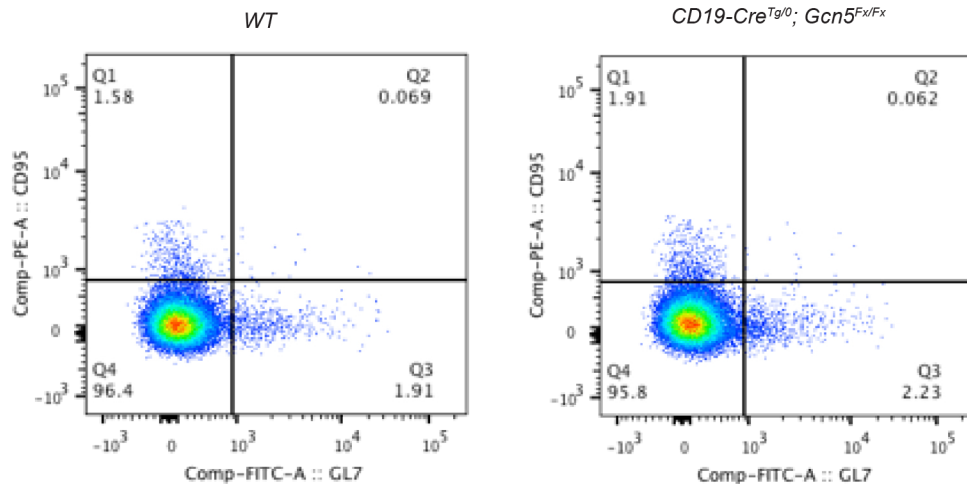
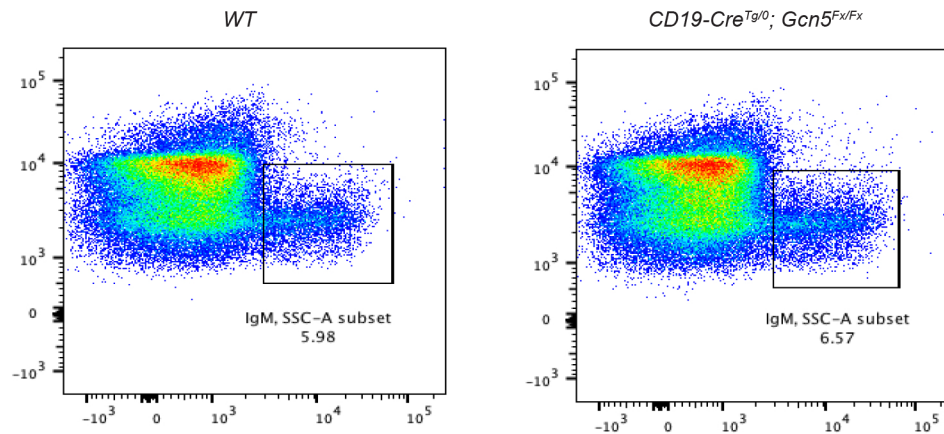
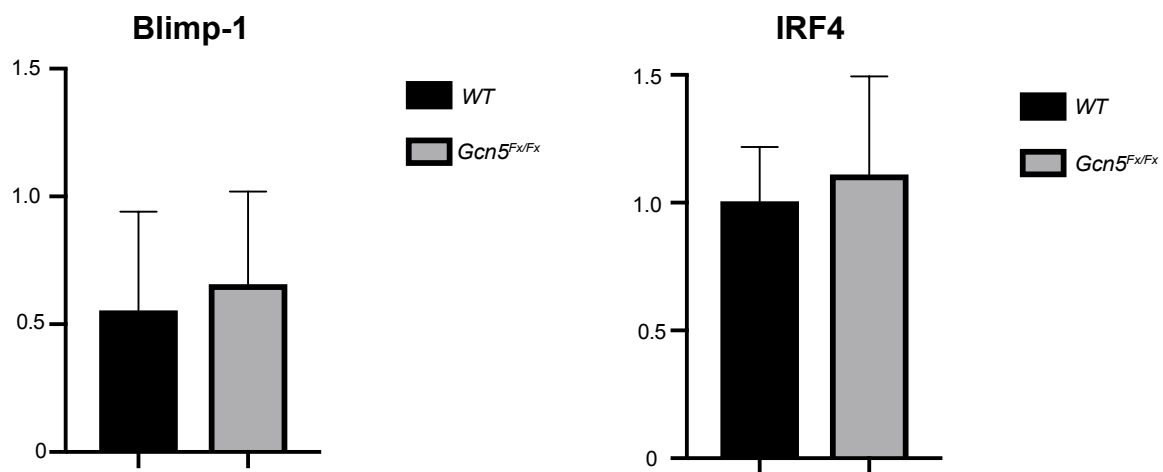


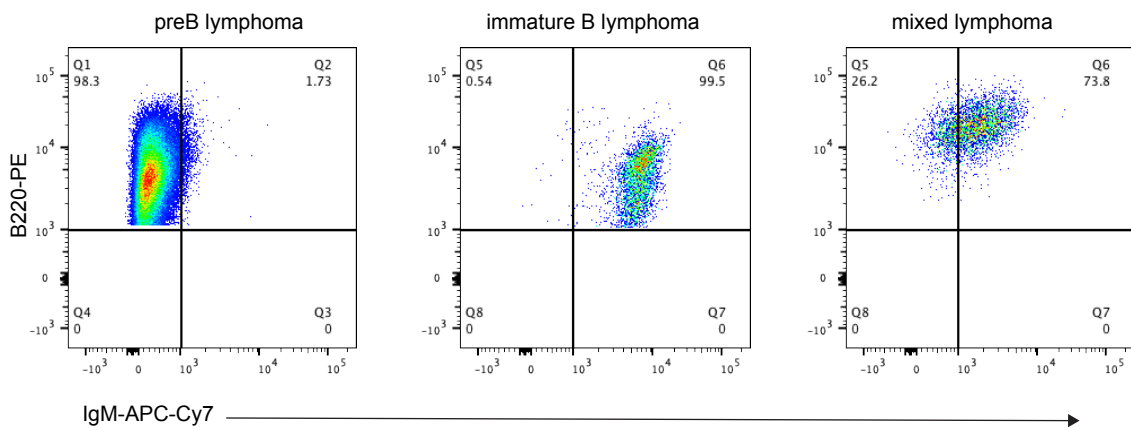
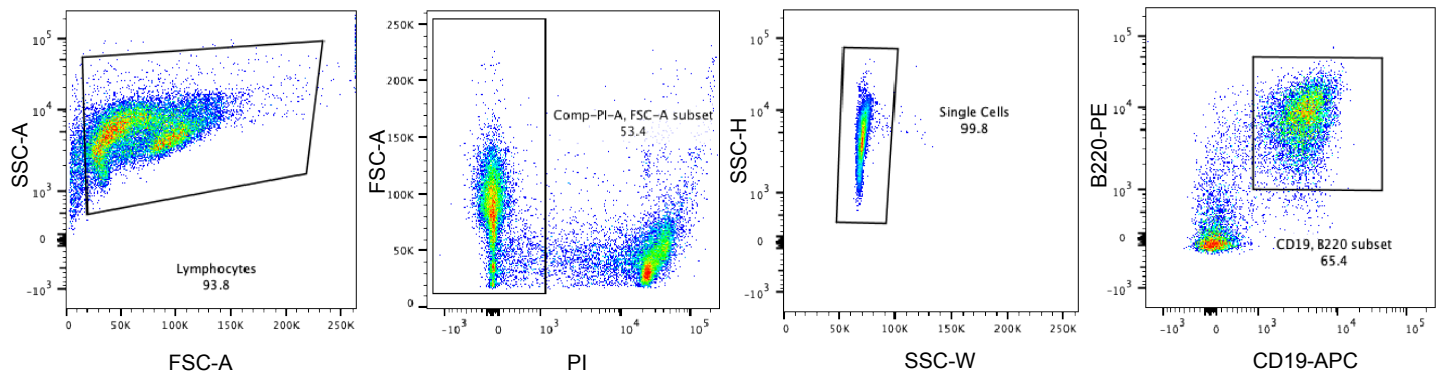
**A****B****C****D**

**E****F**

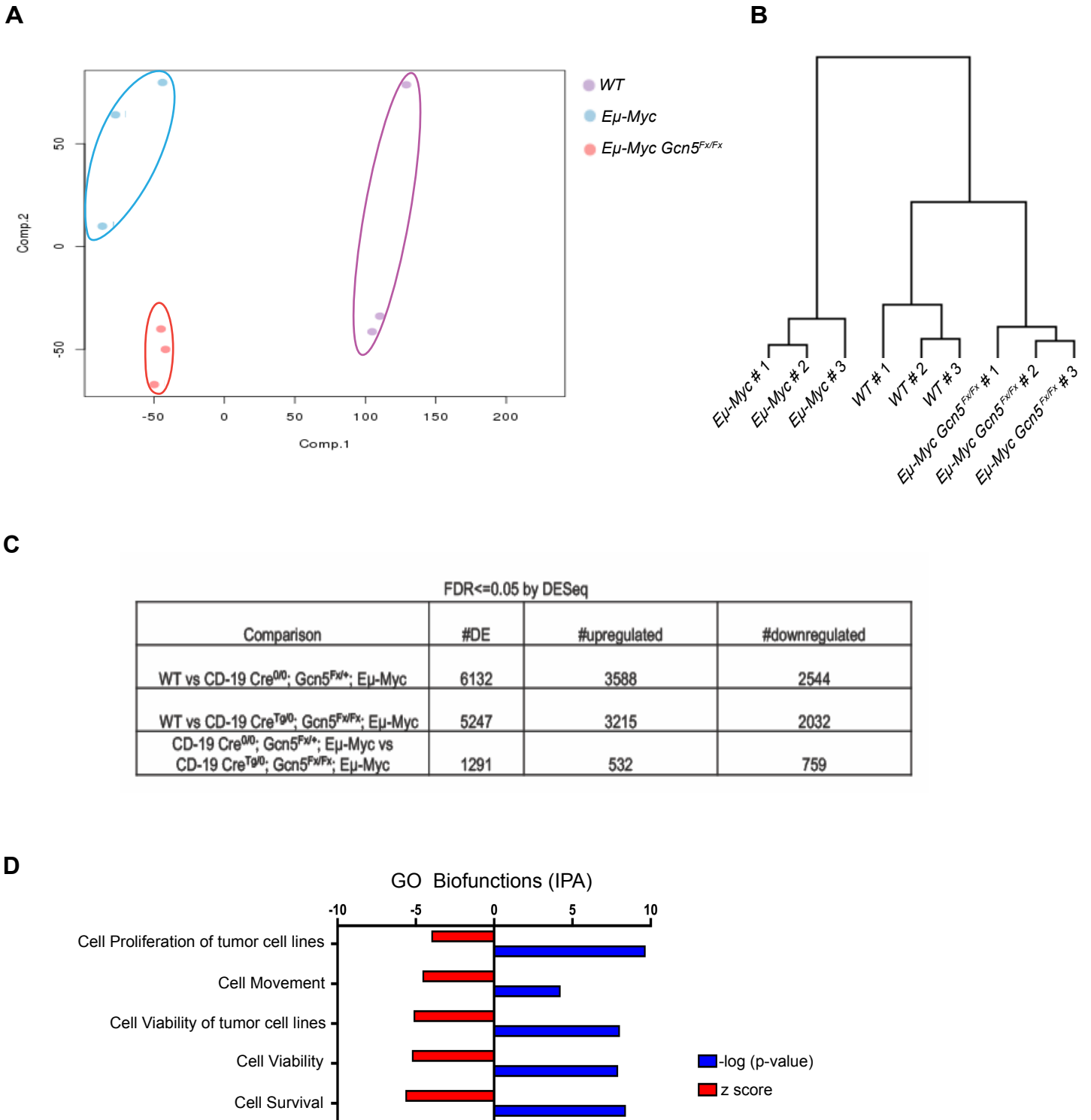
**Supplementary Figure S1. Gcn5 loss does not significantly alter normal B cell development in mice.** **A** Representative immunoblot showing efficient loss of Gcn5 expression. CD19<sup>+</sup> B cells were sorted from spleens of 5-6-week-old *WT* and *CD19-Cre<sup>Tg0</sup>; Gcn5<sup>Fx/Fx</sup>* mice. **B** Representative flow plot determining percentage of CD19<sup>+</sup> B cells from spleens. **C** Representative flow plots of ProB (PI-B220<sup>+</sup>CD43<sup>hi</sup>IgM<sup>-</sup>) and PreB (PI-B220<sup>+</sup>CD43<sup>lo</sup>IgM<sup>-</sup>) from bone marrow. **D** Representative flow plots of Immature (PI-B220<sup>+</sup>CD43<sup>lo</sup>IgM<sup>+</sup>IgD<sup>-</sup>) and Mature (PI-B220<sup>+</sup>CD43<sup>lo</sup>IgM<sup>+</sup>IgD<sup>+</sup>) B cells from bone marrow. **E** Representative flow plots of Germinal Center (PI-CD19<sup>+</sup>GL7<sup>+</sup>CD95<sup>+</sup>) B cells from spleen. **F** Representative flow plot determining percentage of IgM<sup>+</sup> B cells from spleen. (y axis SSC-A; X axis IgM-APC-Cy7)



**Supplementary Figure S2. Deletion of Gcn5 does not alter Plasma Blast regulatory genes.** Blimp-1 and IRF4 and genes that are necessary for plasma blast cell differentiation. Loss of Gcn5 does not significantly downregulate either Blimp-1 nor IRF4 (n=3). All p-values determined by unpaired Student's t-test. Significant P-value was < 0.05.



**Supplementary Figure S3. Pre-lymphomic E $\mu$ -Myc mice have altered B cell populations with loss of Gcn5.** Gating strategy to assessing tumor phenotypes. Tumors are categorized as PreB (B220<sup>+</sup>CD19<sup>+</sup>IgM<sup>-</sup>), Immature B (B220<sup>+</sup>CD19<sup>+</sup>IgM<sup>+</sup>), or mixed (both PreB and Immature B).



**Supplementary Figure S4. Loss of Gcn5 alters gene expression in B cells of *Eμ-Myc* mice.** **A** Principal component analysis (PCA) of variance of expression profiles of CD19<sup>+</sup> B cells from spleens of 5-6-week-old WT, *Eμ-Myc*, and *Eμ-Myc; Gcn5<sup>F<sub>X</sub>/F<sub>X</sub></sup>* mice. **B** Dendrogram of hierarchical cluster analysis of genes differentially expressed in CD19<sup>+</sup> B cells from spleens of 5-6-week-old WT, *Eμ-Myc; Gcn5<sup>F<sub>X</sub>/+</sup>*, and *Eμ-Myc; Gcn5<sup>F<sub>X</sub>/F<sub>X</sub></sup>* mice. **C** Numbers of differentially expressed genes identified in RNA-Seq (FDR≤ 0.05). **D** Significantly altered diseases and biofunctions predicted by IPA.