

Supplementary Figure 1

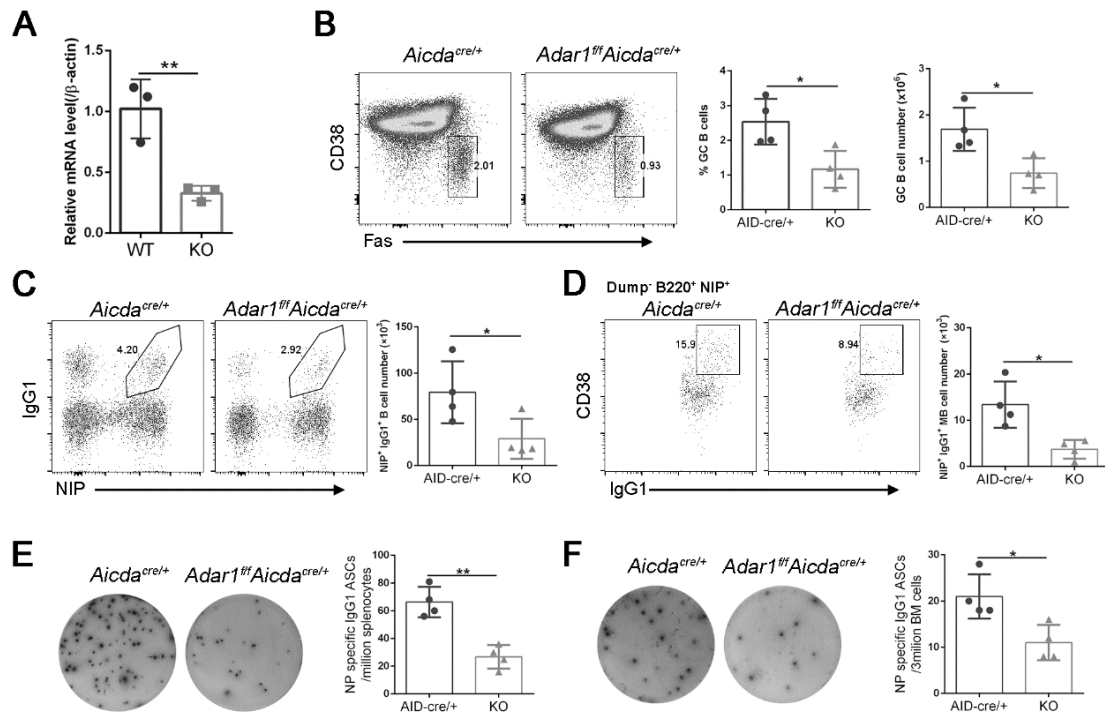


Figure S1. ADAR1 deletion impairs GC B cell response. (A) ADAR1 expression in activated B cells from the Peyer's patches of *Adar1^{fl/fl}* (WT) and *Adar1^{fl/fl}Aicda^{Cre/+}* mice (KO) using quantitative RT-PCR. (B-D) Flow cytometry, frequencies and numbers of GC (B), B220⁺Dump⁻NIP⁺IgG1⁺ (C) and memory (D) B cells in spleens of *Aicda^{Cre/+}* and *Adar1^{fl/fl}Aicda^{Cre/+}* mice at day 10 after NP-CGG immunization. (E, F) ELISpot analysis of NP-specific IgG1 ASCs in spleens (E) and bone marrow (F) of *Aicda^{Cre/+}* and *Adar1^{fl/fl}Aicda^{Cre/+}* mice at day 10 after NP-CGG immunization. Each symbol represents an individual mouse. Data are displayed as mean ± standard deviation. *P*-values are shown as * (*P* ≤ 0.05) and ** (*P* ≤ 0.01).

Supplementary Figure 2

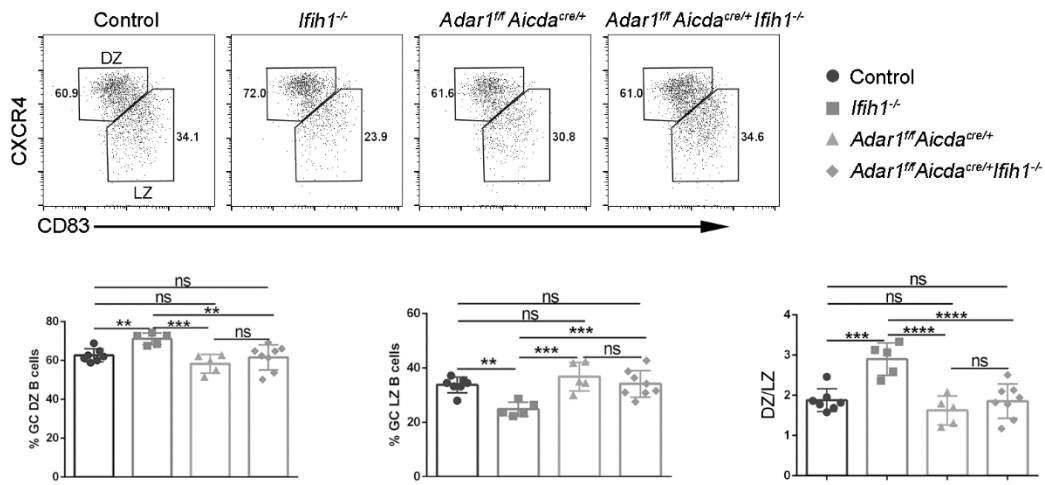


Figure S2. DZ and LZ B cell formation in the DKO mice. Flow cytometry analysis of DZ and LZ B cells in spleens of control, *Ifih1*^{-/-}, *Adar1*^{ff} *Aicda*^{Cre/+} and *Adar1*^{ff} *Aicda*^{Cre/+} *Ifih1*^{-/-} mice on day 10 after NP-CGG immunization. Each symbol represents an individual mouse. Data are displayed as mean ± standard deviation. *P*-values are shown as ** ($P \leq 0.01$), *** ($P \leq 0.001$), **** ($P \leq 0.0001$) and ns (no significance, $P > 0.05$).

Supplementary Figure 3

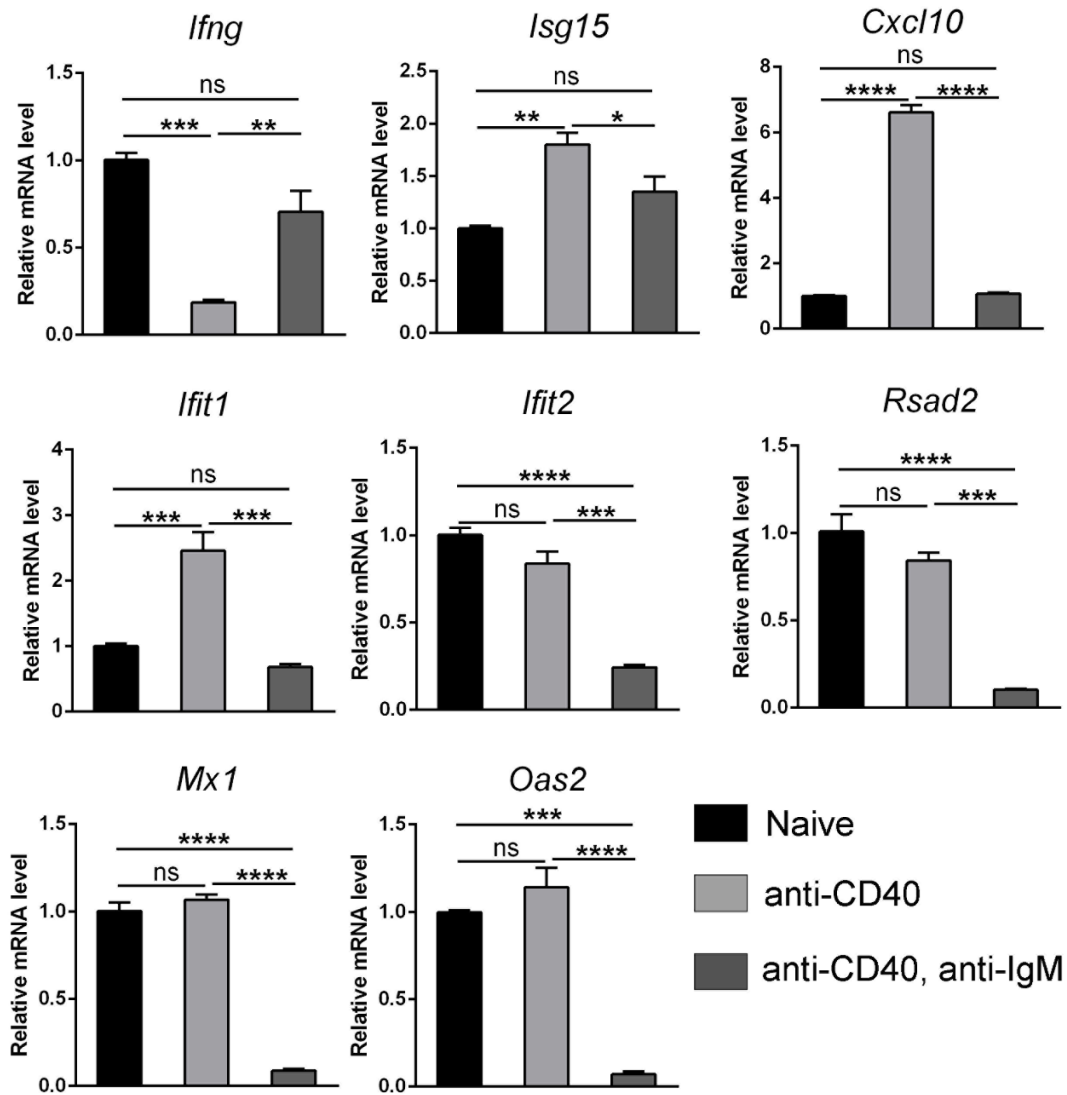


Figure S3. Expression of IFN and IFN-related genes in B cells. Naïve, anti-CD40, and anti-IgM plus anti-CD40 stimulated B cells were used for quantitative RT-PCR analysis. Data are displayed as mean \pm standard deviation ($n=3$). P -values are shown as * ($P \leq 0.05$), ** ($P \leq 0.01$), *** ($P \leq 0.001$), **** ($P \leq 0.0001$) and ns (no significance, $P > 0.05$).

Supplementary Figure 4

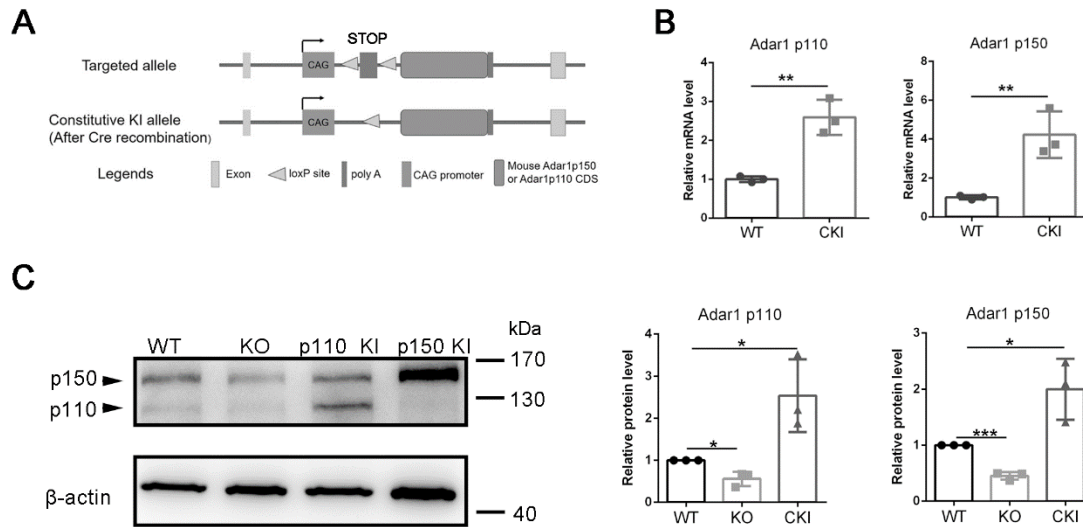


Figure S4. Conditional knockin of ADAR1 in B cells. (A) Schematic diagram of the conditional ADAR1 expression strategy. The CAG-LoxP-STOP-LoxP-p110/p150 cassette was inserted into the first intron of ROSA26 and the expression of mouse ADAR1 p110 or p150 will be dependent on the depletion of STOP region mediated by Cre recombination. (B, C) quantitative RT-PCR (B) and western blot (C) analysis of ADAR1 p110 and p150 expression in splenic B cells of *Adar1^{fl/fl}* (WT), *Adar1^{fl/fl}Cd19^{Cre/+}* (KO), *Adar1^{fl/fl}Cd19^{Cre/+}p110^{KI/+}* (p110 KI) and *Adar1^{fl/fl}Cd19^{Cre/+}p150^{KI/+}* (p150 KI) mice. Each symbol represents an individual mouse. Data are displayed as mean \pm standard deviation. *P*-values are shown as * ($P \leq 0.05$), ** ($P \leq 0.01$) and *** ($P \leq 0.001$).