Supplemental. *Optimal Germinal Center B cell Activation and T-dependent Antibody Responses Require the Expression of the Mouse Complement Receptor Cr1*

Supplemental Figure 1. Representative histograms of CD19 expression on bone marrow, peritoneal, and splenic B cells. *A* and *B*, Total bone marrow, peritoneal cavity, or splenic cells were isolated from naïve WT (filled histogram/black bars), *Cr1/2KO* (gray line histogram/gray bars), and *Cr1KO* (black line histogram/white bars) mice and surface CD19 expression was analyzed by FACS. *A*, Representative histograms of CD19 expression on pro-B, pre-B, immature, and mature B cells (top four plots); B1a and B1b cells from the peritoneal cavity (middle two plots); and total splenic B cells (bottom plot). *B*, Quantification of the geometric mean fluorescent intensity (gMFI) of CD19 staining by FACS analysis on B cell populations from the bone marrow, peritoneal cavity, and total splenic B cells. Bars represent the average gMFI for each genotype. CD19 gMFI was analyzed by ANOVA for each population and determined to be at least $p<0.05$ where significance is shown pairwise (* =$p<0.05$, ** = $p<0.01$, and ***=$p<0.001$ by the student's t-test; n=3,4; sex matched 8-12 week old mice).

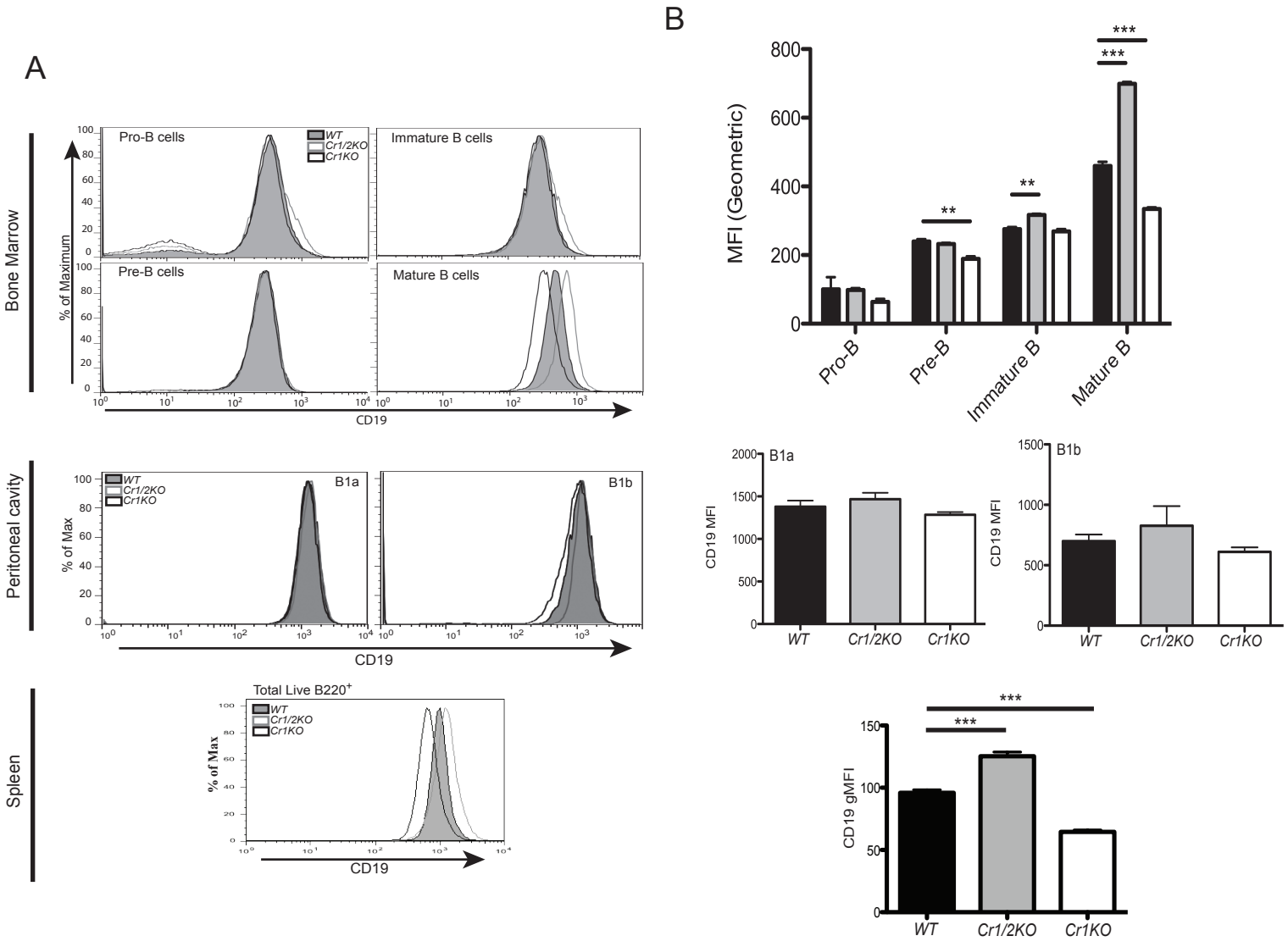
Supplemental Figure 2. RT-PCR quantification of splenic inflammatory gene expression. Intron spanning primer sets specific for arachidonate 5-lipoxygenase (*Alox5)*, D site albumin promoter binding protein (*Dbp)*, cathepsin G (*Ctsg)*, coagulation factor V (*Fv)*, lipocalin 2 (*Lcn2),* and killer cell lectin-like receptor, subfamily A, member 18 (*Klra18)* were used to quantify gene expression in mRNA obtained from total splenic extracts. All sample quantifications were normalized to 1000 β-actin transcripts. Bars represent the mean fold change from WT (center line) for *Cr1/2KO* (black) and *Cr1KO* (white). (WT n=3, *Cr1KO* and *Cr1/2KO* n=4; 12-16 week old female mice; BALB/C background; Error bars represent SEM; *=$p<0.05$, **=$p<0.01$, ***=$p<0.001$ by student's t-test).

Supplemental Figure 3. TI-1, TI-2, and TD antigen specific immunoglobulin responses. Experiments were performed in which WT, *Cr1/2KO*, and *Cr1KO* mice

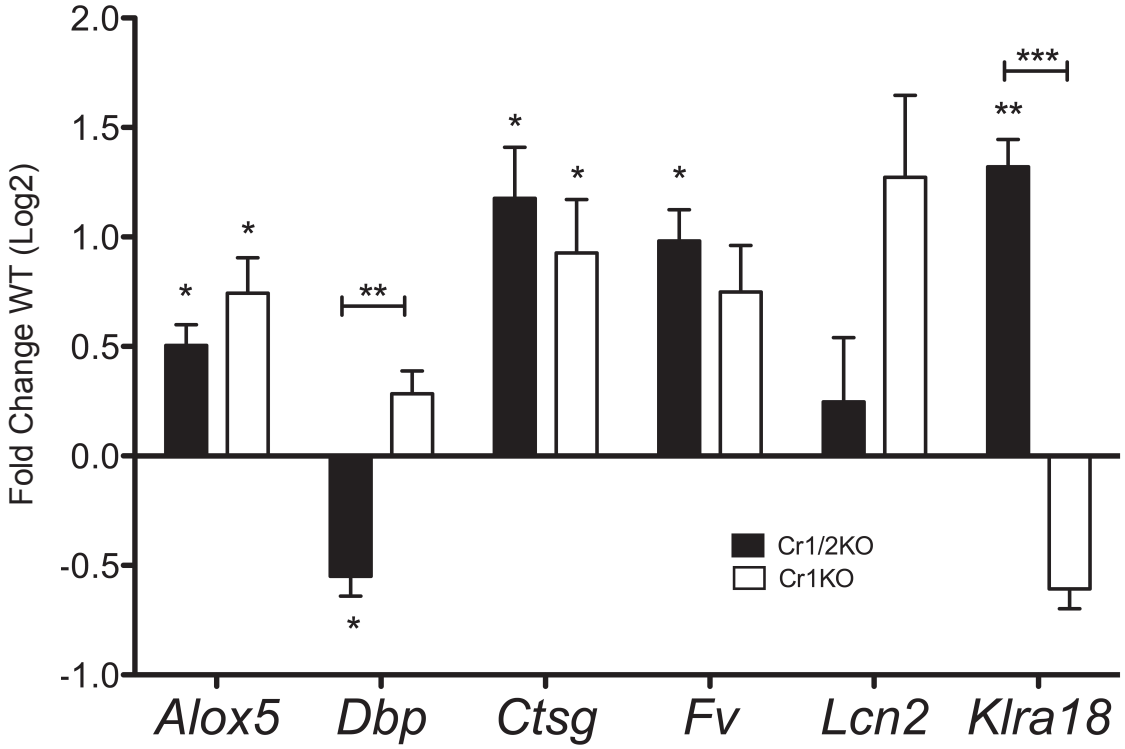
were immunized with the model antigens (*A*) TNP-LPS (TI-1) and (*B*) DNP-AECM-Ficoll (TI-2), as well as (*C*) TNP-KLH (TD) at both a low dose immunization (10μg) and high dose immunization (100μg). All mice that were immunized with TNP-KLH were administered a secondary immunization at 21 days. Serum samples were collected at seven day intervals post-immunization, and antigen specific immunoglobulin (IgM, IgG1, IgG2b, IgG2c, and IgG3) abundance was measured by ELISA. All data graphed here are included in the larger data set shown in **Fig.9**. (TI-1 n=4-7; TI-2 n=6; TD (low) n=4; TD (high) n=5; 8-12 week old sex matched mice; * = $p<0.05$; ** = $p<0.01$ significance between WT and *Cr1KO* by student's t-test).

Supplemental Figure 4. FACS analysis of *C3KO* GC B cells following SRBC immunization. Percentage of live $B220^{+}$ splenocytes that are IgD^{int} Fas^{+} in SRBC immunized WT and *C3KO* mice compared to mock PBS immunized mice and representative dot plots. (n=8 immunized, n=2 PBS; Error bars represent SEM; ns=not significant; *=$p<0.05$, **=$p<0.01$, ***=$p<0.001$ by student's t-test).

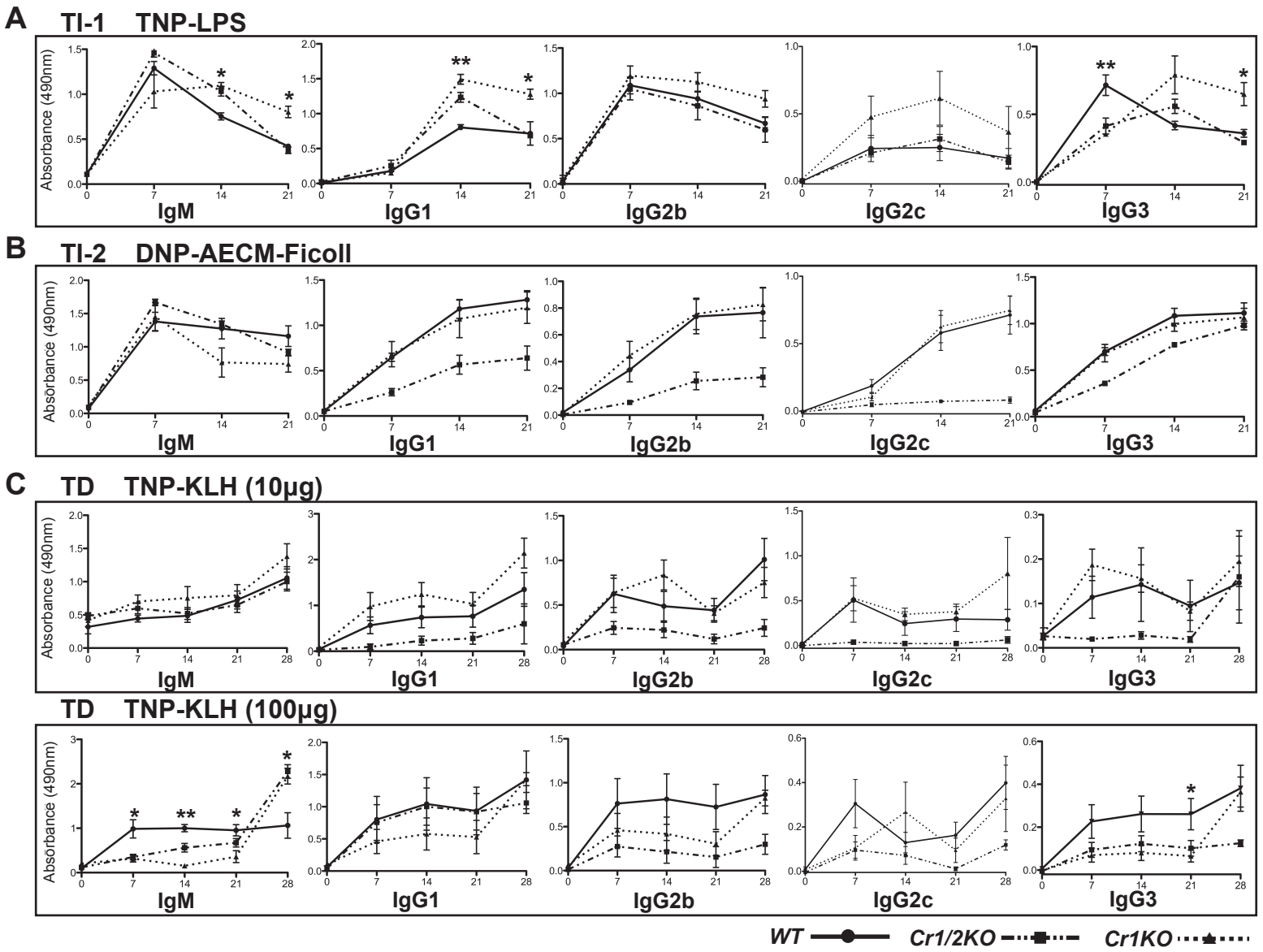
Supplemental Figure 1



Supplemental Figure 2



Supplemental Figure 3



Supplemental Figure 4