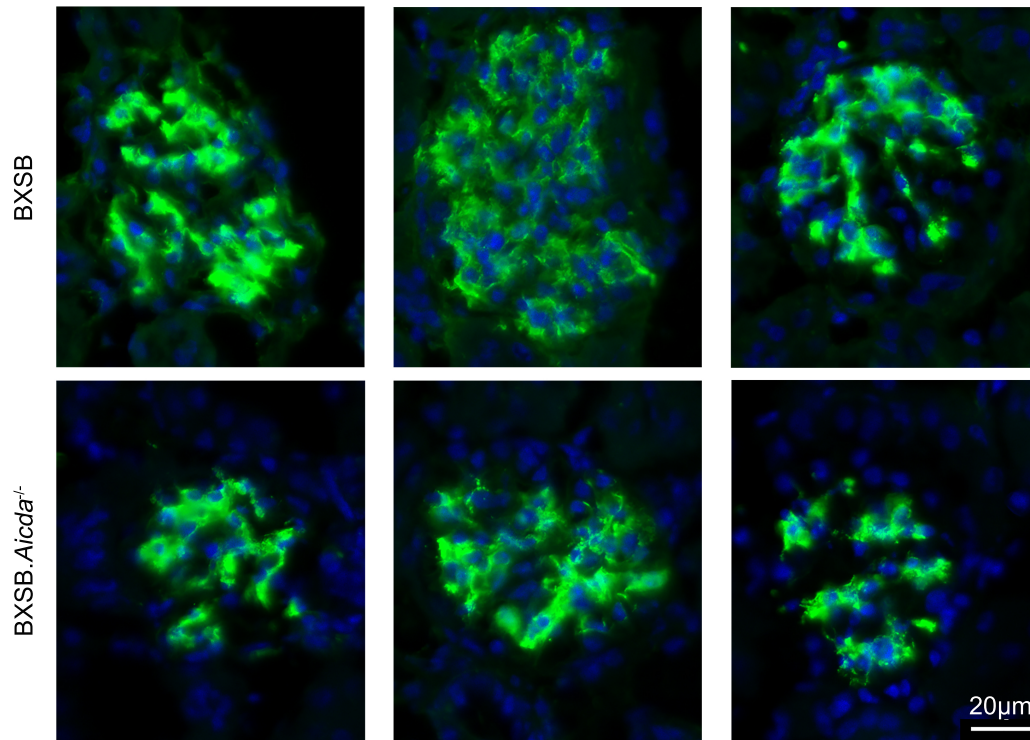
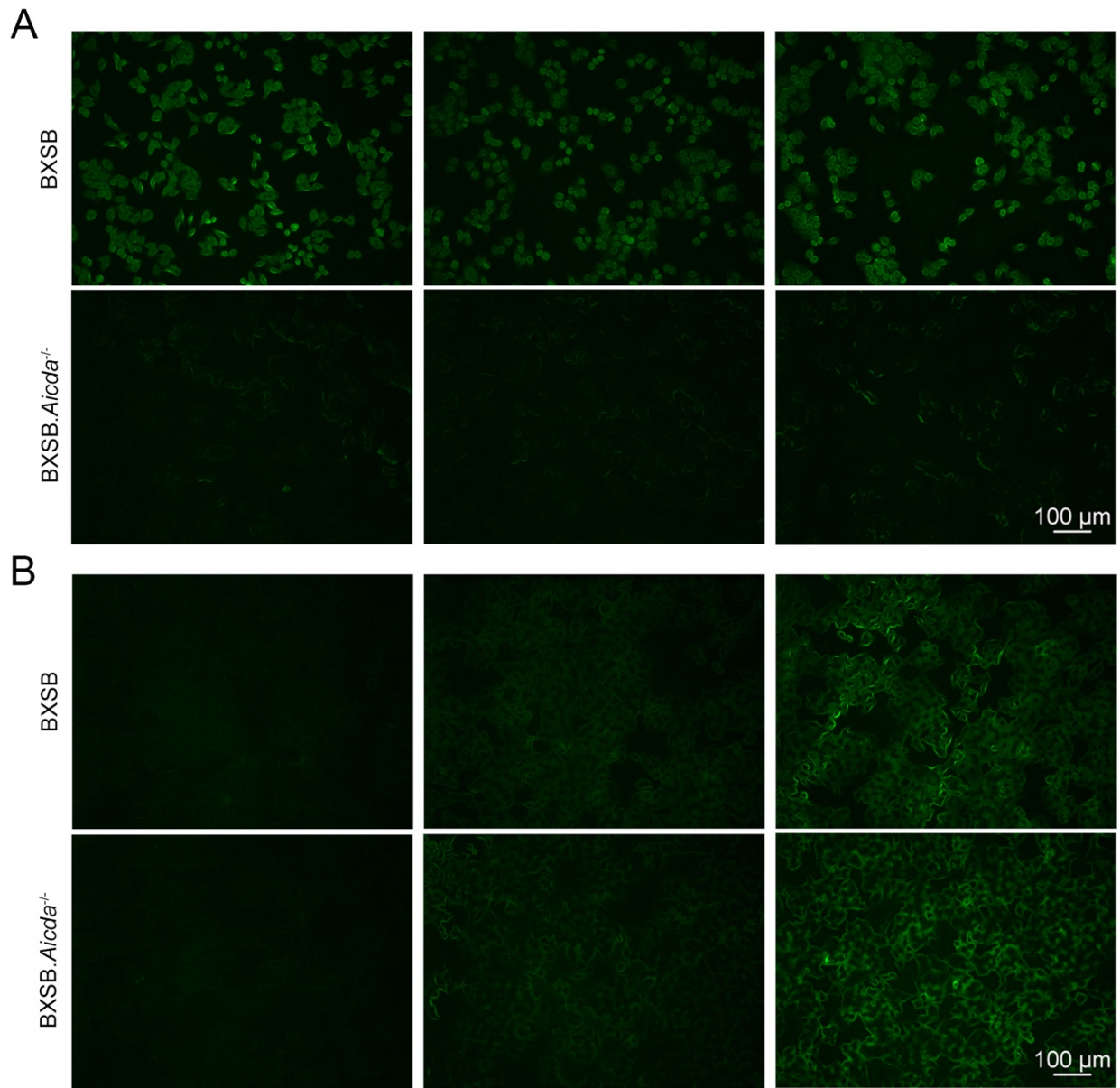


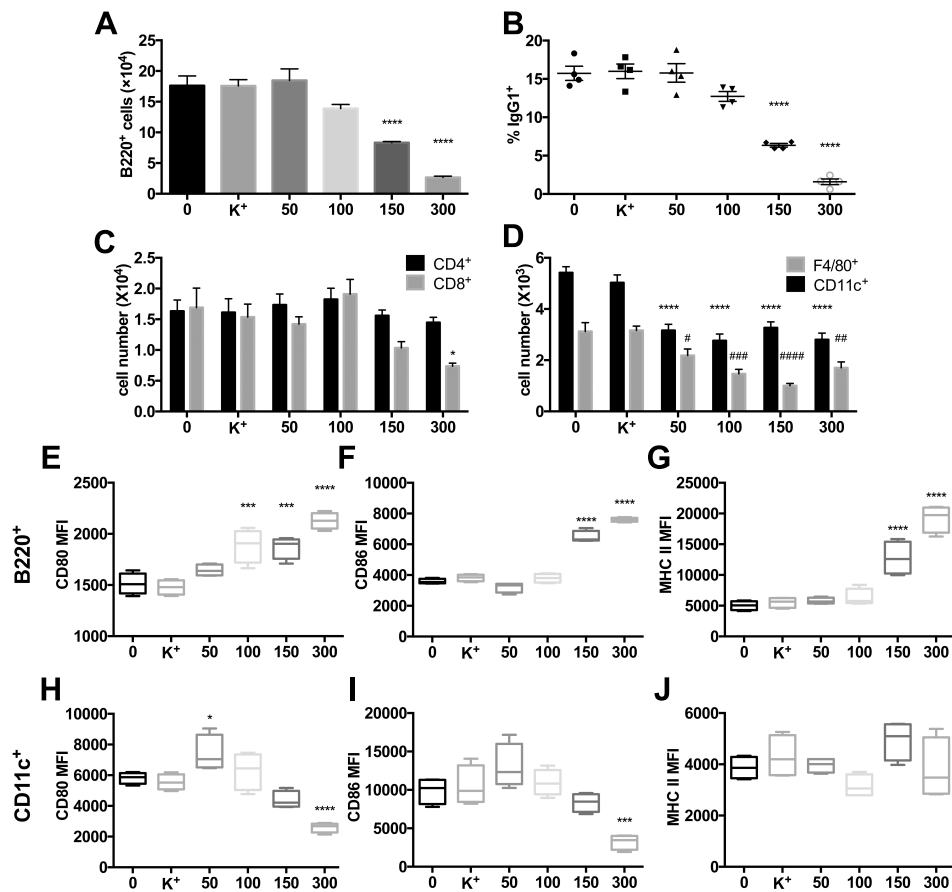
Supplemental figure 1. Significant improvement renal pathology observed in BXSB.*Aicda*^{-/-} mice. Representative images of H&E stained kidney slides from 12-week-old BXSB (n=12) and BXSB.*Aicda*^{-/-} (n=16) mice are shown (magnification 200X). The arrows show the mesangioproliferative glomerulonephritis and the asterisk is on a protein cast in the tubules.



Supplemental figure 2. Magnified glomerular Ig staining pattern in BXSB and BXSB.Aicda^{-/-} mice. Representative immunofluorescence images of Ig deposition in glomeruli of 12-week-old BXSB (n=5) and BXSB.Aicda^{-/-} (n=5) mice are shown. Green: Ig, blue: DAPI.



Supplemental figure 3. Reduced anti-nuclear antibodies (ANA) in sera of AID-deficient mice. Sera from 12-week-old BXSB (n=15) and BXSB.*Aicda*^{-/-} (n=11) mice were assessed by ANA slides. Representative images of ANA slides stained with pan Ig (**A**) or IgM (**B**) are shown (magnification 100X).



Supplemental figure 4. B lymphocytes undergo cell death and fail to class switch upon stimulation in the presence of DIDS *in vitro*. Wt BXSB splenocytes were stimulated with CD40 and IL-4 along with DIDS (0, 50, 100, 150 or 300 μM) or potassium bicarbonate (K⁺) (n=4). (A, C, D) B and T lymphocyte, dendritic cell and macrophage cell numbers after 96 hours of culture. (B) The percentage of IgG1⁺ cells after 96 hours of culture. Data are presented as mean±SEM. (E-J) MFI of CD80, CD86 and MHC II were analyzed for B220⁺ gated cells (E-G) and CD11c⁺ gated cells (H-J). (E-J) Data are presented as minimum to maximum. Statistical significance was determined by One-way ANOVA. *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001. Data are representative of three independent experiments.