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Macrophage scavenger receptor 1 (Msr1, SR-A) influences B cell autoimmunity by regulating soluble autoantigen concentration

Supplemental Figure 1: Decreased incidence and severity of arthritis and endocarditis in *Msr1–/–* K/BxN mice. (**A**) Histological analysis of ankle (left panels) and mitral valve (right panels) pathology in *Msr1*+/+, +/–, and –/– K/BxN mice demonstrates protection from both joint and cardiac valve pathology in non-arthritic *Msr1*–/– K/BxN mice. For ankles, original magnification = 10x, bar (in fourth row) indicates 200 microns. For mitral valves, original magnification = 40x; bar (in fourth row) indicates 100 microns. (**B**) Five non-arthritic *Msr1*–/– K/BxN mice (filled circles) were aged up to 15 weeks, during which any mild arthritis resolved or remained equivalent to the 8-week time point, as demonstrated by changes in ankle thickness. The data from the *Msr1*+/+ K/BxN mice (reproduced from Figure 1B) are shown for comparison. Plotted values are means ± SEM. *$p \leq 0.05$, **$p \leq 0.01$.

Supplemental Figure 2: *Msr1*-sufficient host environment permits *Msr1*-deficient K/BxN hematopoietic compartment to drive arthritis and B cell activation

Rag1–/– recipient mice were sublethally irradiated (300 Rad) and transplanted with $10x10^6$ bone marrow cells from *Msr1*+/+ K/BxN mice or *Msr1*–/– K/BxN mice as indicated. (**A**) The development of arthritis in both groups was determined by weekly arthritis scoring and ankle measurements. Values shown are means +/- SEM. n= 3 mice/group. (**B**) B cells in the reconstituted mice were analyzed for their ability to bind to GPI-tetramer, for having undergone isotype switching express IgG1 intracellularly, and transitioning to a $CD38^{low}$ $GL7^{+}$ activated

phenotype. Numbers indicate the percentage of cells in each quadrant or gate. (**C**) Representative flow cytometric plot of $CD3^{-}$ $F4/80^{+}$ macrophages in the reconstituted mice analyzed for expression of the congenic markers differentiating the donor cells ($CD45.1^{+}$ $CD45.2^{+}$) from the host cells ($CD45.1^{-}$ $CD45.2^{+}$). The numbers shown are percentages. In analysis of multiple mice, the percent of macrophages that were host-derived ranged from 38-63%. (**D**) Similar analysis for $CD3^{+}$ T cells and $B220^{+}$ B cells reveals that they are entirely donor-derived.

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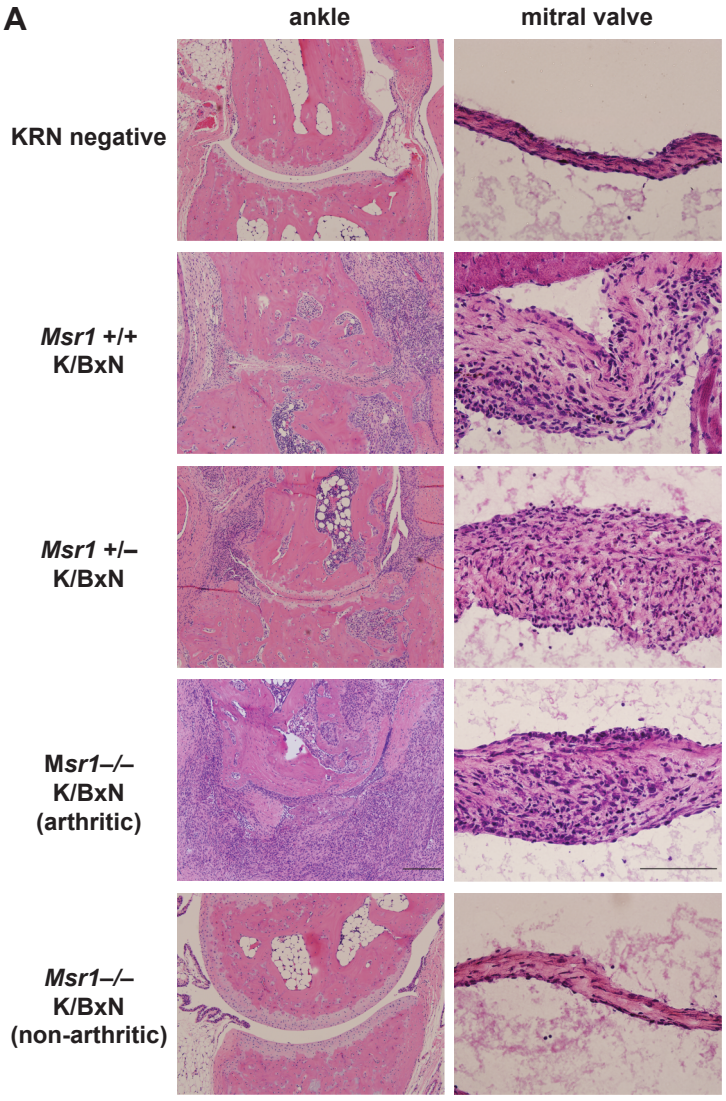
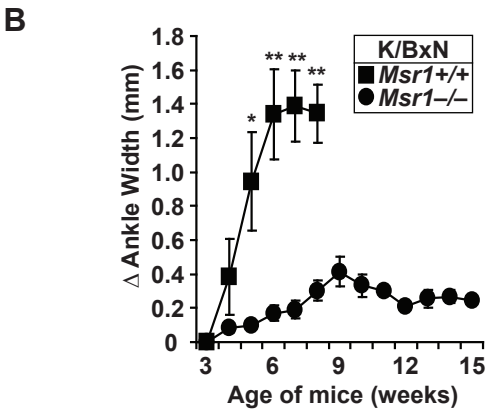
Supplemental Figure 1





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Supplmental Figure 2