

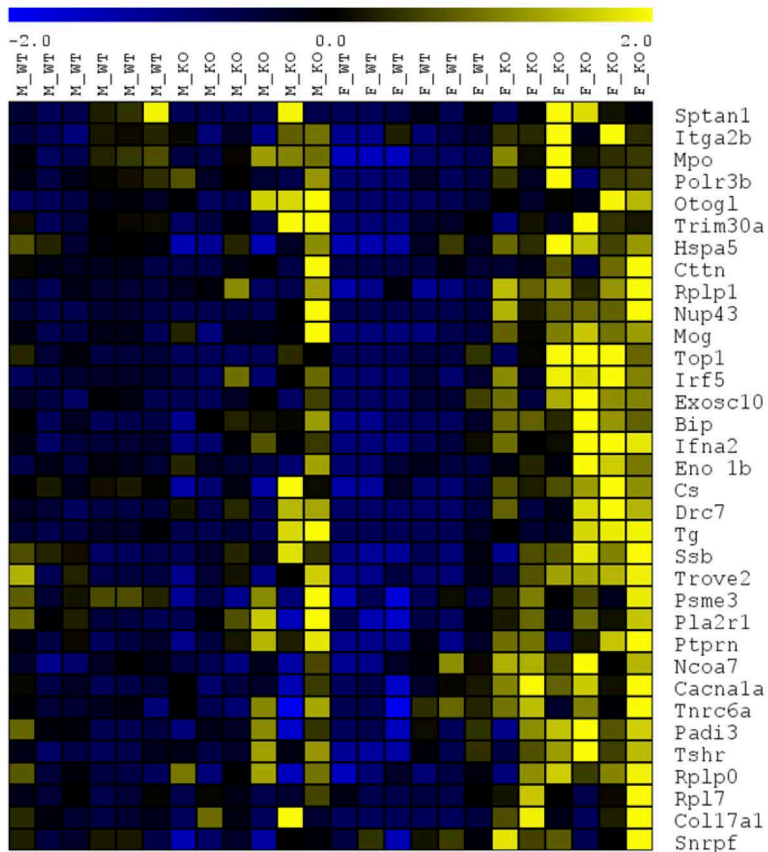
Supplemental Figure 1. Female ARE-Del^{-/-} mice have a high induction of IgM autoantibodies for autoimmune diseases. Venn diagram of differentially expressed genes in male and female ARE-Del^{-/-} mice vs control mice (n=5) (A). Hierarchical clustering of differentially expressed autoantibodies (B). Expression of SP100 and PDC-E2 IgM autoantibodies in male (M) vs female (F) ARE-Del^{-/-} mice (KO) compared to control littermates (C).

Supplemental Figure 2. Confocal immunofluorescent images of spleen sections from Ifnar1^{-/-}, Tlr7^{-/-}, ARE-Del^{-/-}, ARE-Del^{-/-}Ifnar1^{-/-}, ARE-Del^{-/-} Tlr7^{-/-} mice compared to control littermates. B lymphocytes (anti-B220), anti-CD4(T lymphocytes), anti-F4/80 (red pulp macrophages), anti-CD169 and MARCO (marginal zone macrophages) were used for detection of the different cell populations.

Supplemental Figure 3. B cell frequency. Spleen from ARE-Del^{+/-} (Het), ARE-Del^{-/-} (KO) and control littermates (WT) were collected at age 20(±2) weeks (n=8-9). The B220 positive B cell population was analyzed by flow cytometry and data represents mean ± SD. Statistical analysis was performed by one-way ANOVA. **** *P* < 0.0001, n.s., not significant.

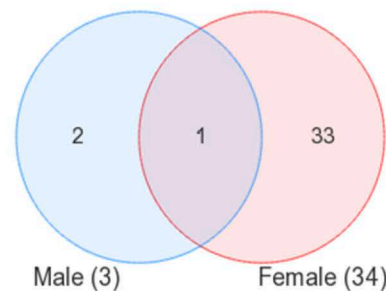
Supplemental Figure 4. Jak-Stat signaling pathway analysis by IPA of the upregulated liver genes from female (A) and male (B) ARE-Del^{-/-} mice. Upregulated liver genes overlay with genes in the signaling as a red color.

A.

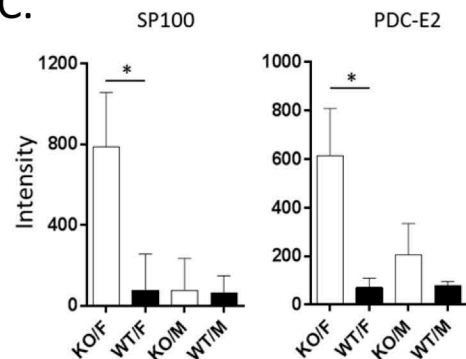


B.

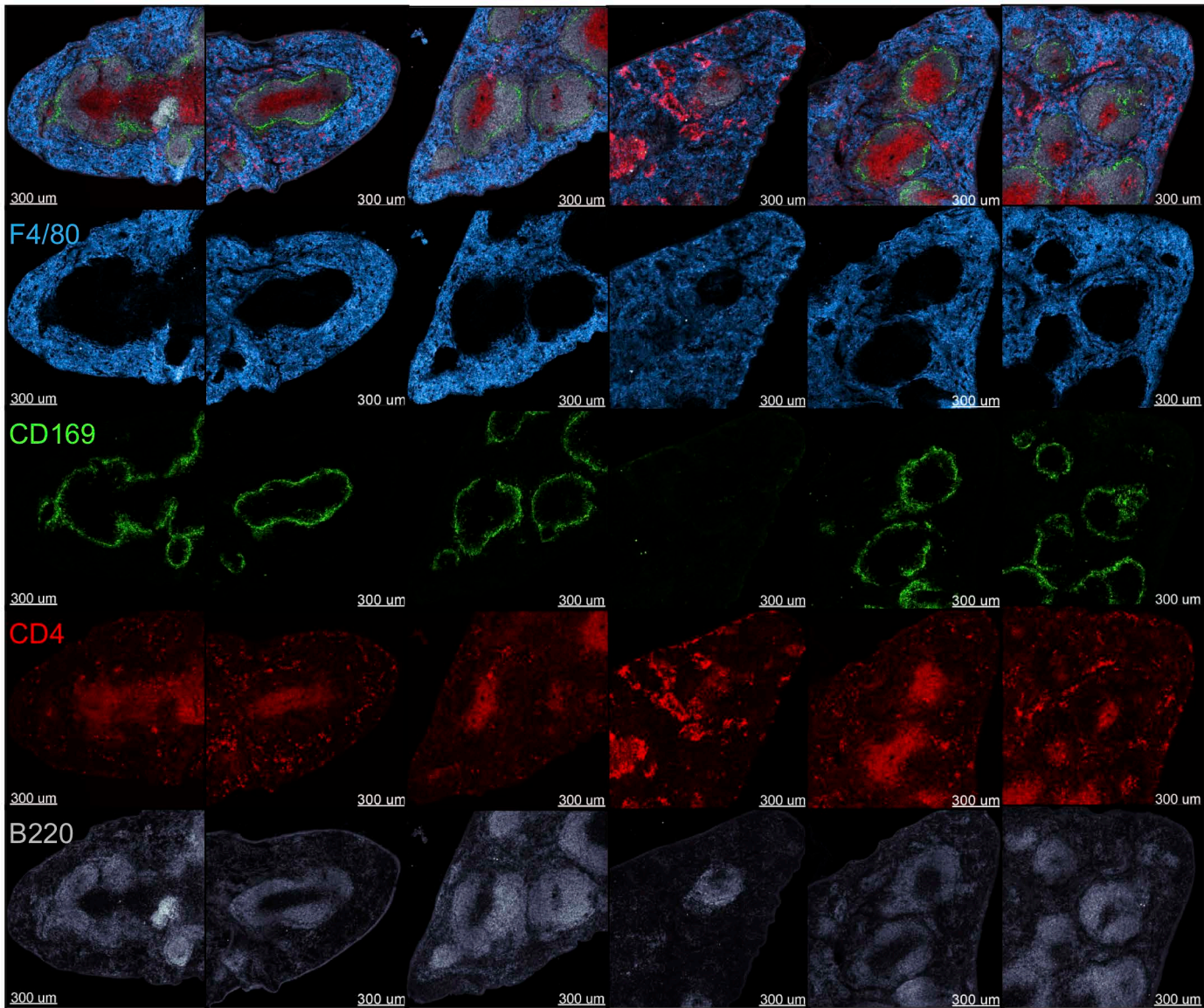
IgM (ARE-Del vs WT)

FDR p -value < 0.05

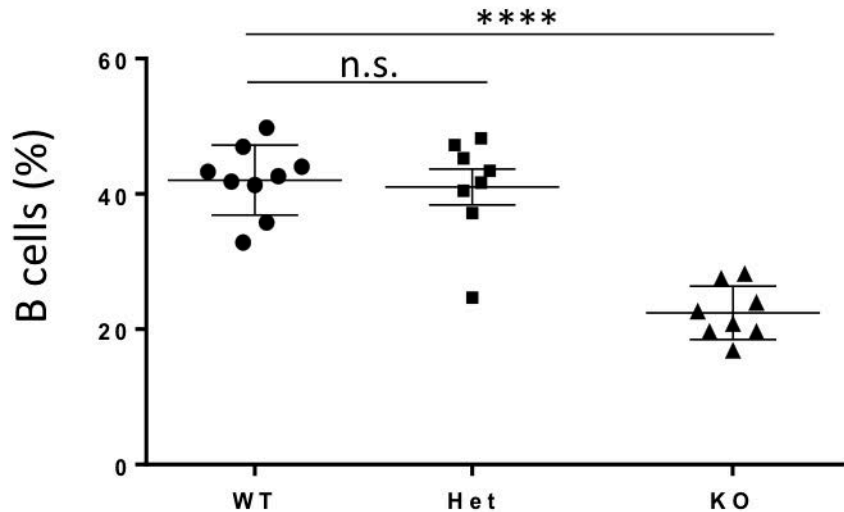
C.



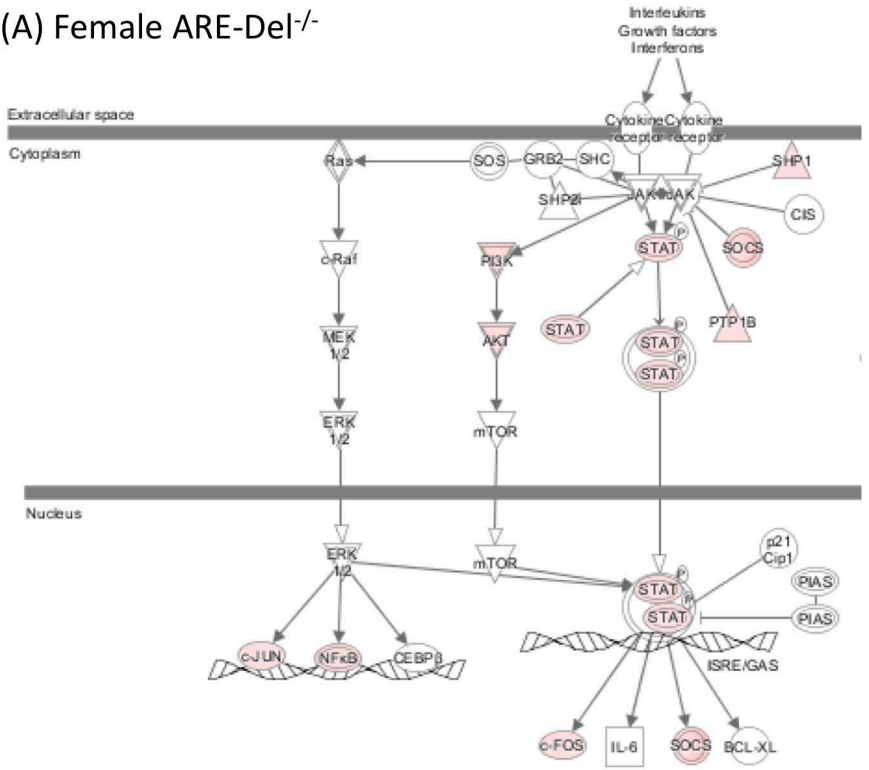
WT

Ifnar1^{-/-}TLR7^{-/-}ARE-Del^{-/-}ARE-Del^{-/-}
Ifnar1^{-/-}ARE-Del^{-/-}
TLR7^{-/-}

Spleen (Female)



(A) Female ARE-Del^{-/-}



(B) Male ARE-Del^{-/-}

