

Figure S1: *Jchain* is highly expressed in ASCs. Related to Figure 1. (A) ImmGen data showing *Prdm1* and *Sdc1* gene expression for all cell types. **(B)** ImmGen data showing *Prdm1*, *Sdc1* and *Jchain* gene expression for all cell types. **(C)** ImmGen data showing *Prdm1*, *Sdc1* and *Jchain* gene expression for all B cell subsets. **(A-C)** Data are derived from the ImmGen RNA-sequencing database and shown as DESeq2 processed expression levels.

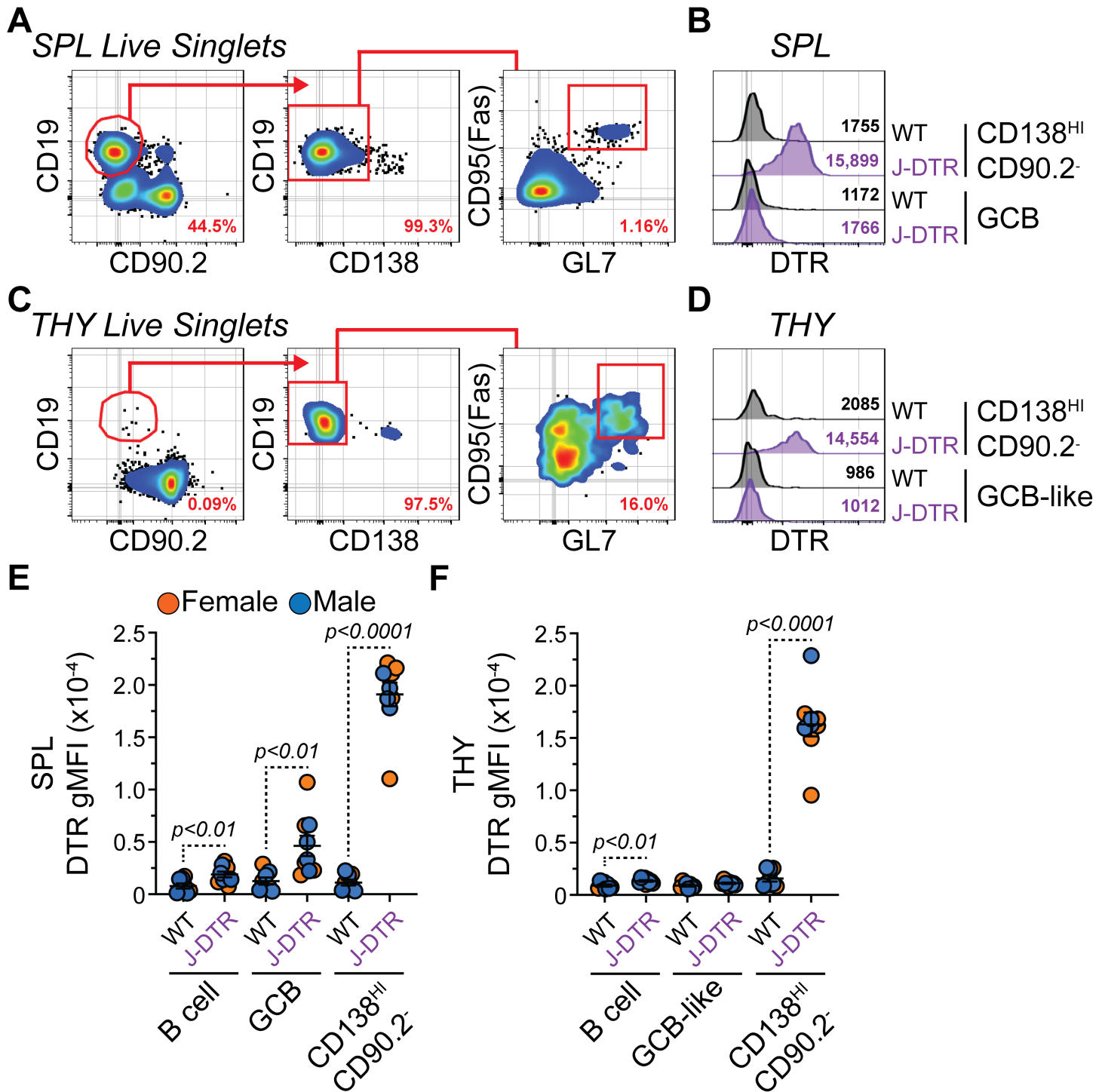


Figure S2: Validation of DTR surface protein expression by ASCs from J-DTR mice. Related to Figure 3. (A) Representative flow cytometry pseudocolor plots showing gating of SPL B cells and GCBs. (B) Representative flow cytometry histogram overlays showing surface expression of DTR by SPL CD138^{HI} CD90.2⁻ cells and GCBs from both WT and J-DTR mice. Numbers in plots indicate DTR gMFIs. (C) Representative flow cytometry pseudocolor plots showing gating of THY B cells and GCB-like cells. (D) Representative flow cytometry histogram overlays showing surface expression of DTR by THY CD138^{HI} CD90.2⁻ cells and GCB-like cells from both WT and J-DTR mice. Numbers in plots indicate DTR gMFIs. (E-F) DTR gMFIs for WT and J-DTR B cells, GCB (or GCB-like) and CD138^{HI} CD90.2⁻ cells from (E) SPL and (F) THY. Symbols represent individual 3-7 months old female (orange) and male (blue) mice. Horizontal lines represent mean \pm SEM. WT: female n = 4, male n = 4; J-DTR: female n = 5, male n = 4. Statistics: Unpaired Student's t-test comparing WT and J-DTR samples.

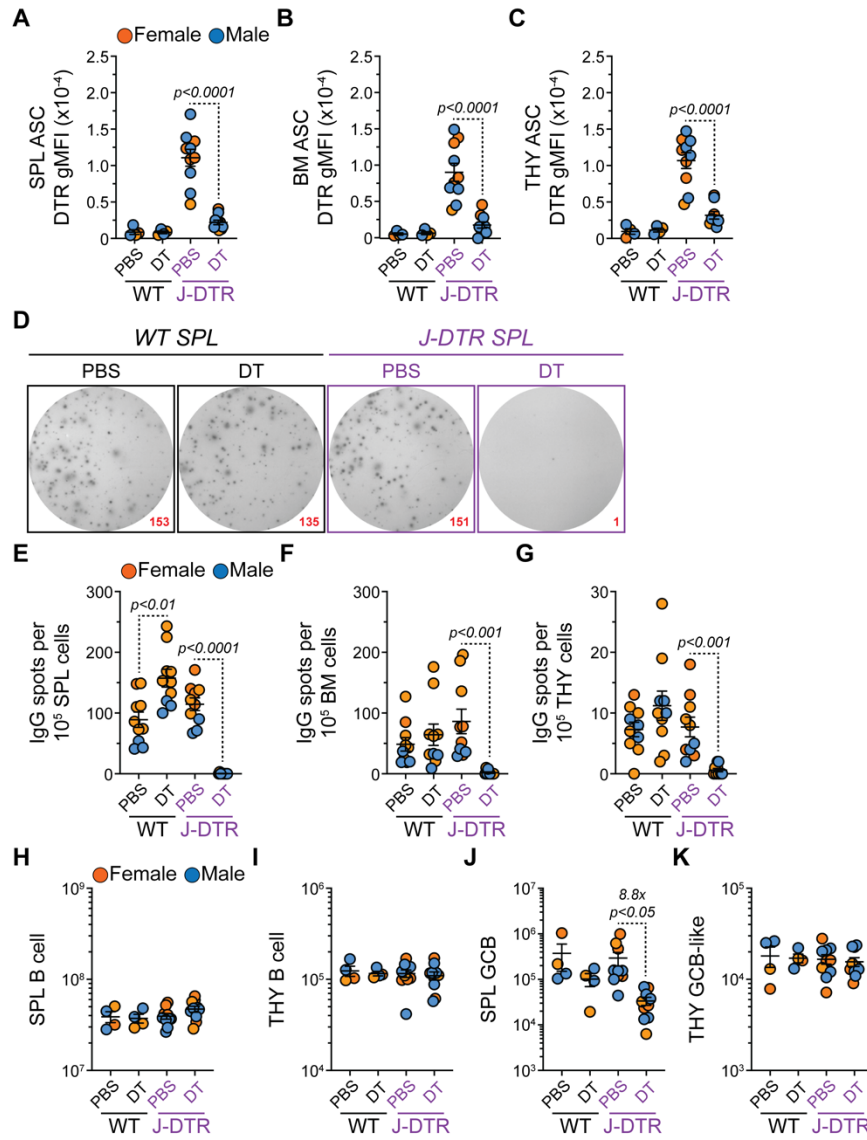


Figure S3: Single dose administration of DT leads to the acute depletion of ASCs in J-DTR mice. Related to Figure 4. (A-C) DTR gMFIs for ASCs from (A) SPL, (B) BM and (C) THY of WT and J-DTR mice treated with PBS or DT. (D) Representative ELISpot images showing IgG spot formation by WT and J-DTR SPLs from mice treated with PBS or DT. 10^5 cells per well were plated in duplicate or triplicate. Red numbers indicate spots counted per well. (E-G) Numbers of IgG spots per 10^5 cells from (E) SPL, (F) BM and (G) THY of WT and J-DTR mice following PBS or DT treatment. Values shown represent data following subtraction of spots detected in wells that were not coated with capture Ab (background). (H-I) B cell numbers for (H) SPL and (I) THY of WT and J-DTR mice treated with PBS or DT. Data presented on Log_{10} scale to show full range. (J-K) GCB (or GCB-like) numbers for (J) SPL and (K) THY of WT and J-DTR mice treated with PBS or DT. Data presented on Log_{10} scale to show full range. (A-C, H-K) Symbols represent individual female (orange) and male (blue) mice. Horizontal lines represent mean \pm SEM. WT PBS and DT: female n = 2, male n = 2; J-DTR PBS and DT: female n = 5, male n = 5. Statistics: Unpaired Student's t-test with comparisons made between PBS and DT treatments within a genotype. (E-G) Symbols represent individual wells (2-3 per mouse) derived from female (orange) and male (blue) mice. Horizontal lines represent mean \pm SEM. WT PBS and DT: female n = 2, male n = 1; J-DTR PBS and DT: female n = 2, male n = 1. Statistics: Unpaired Student's t-test with comparisons made between PBS and DT treatments within a genotype.

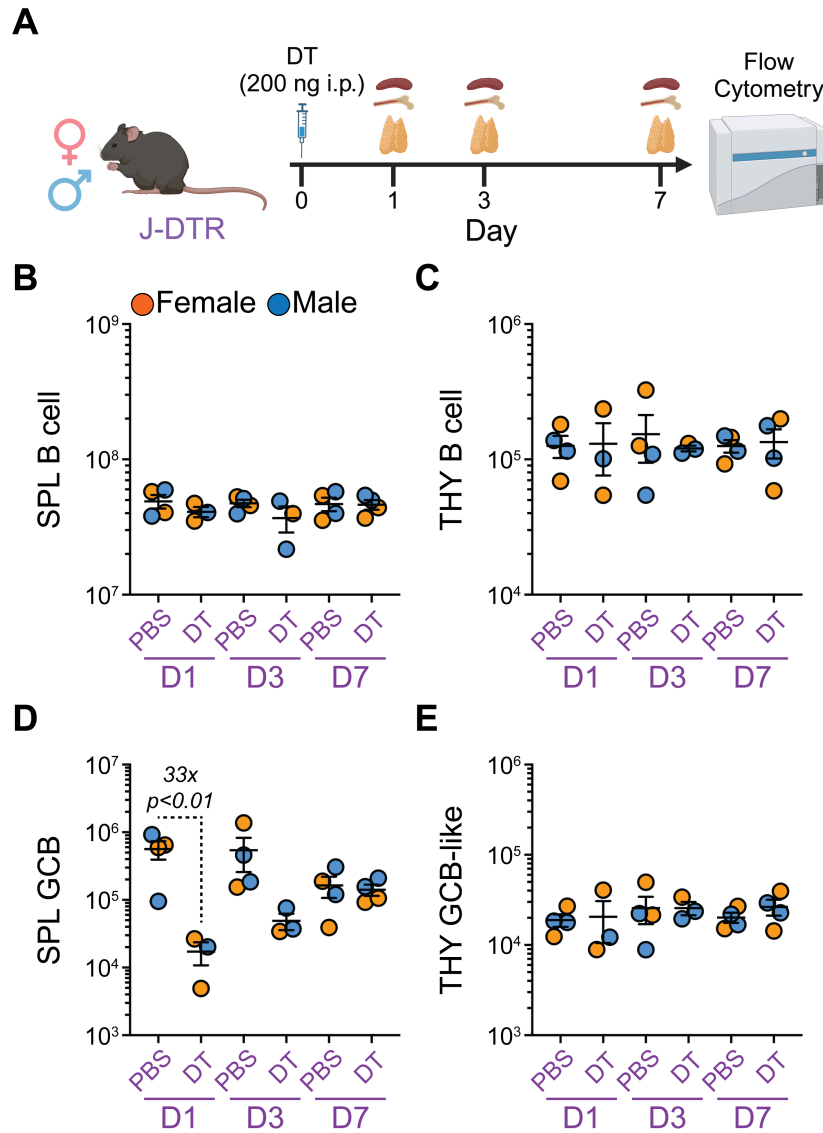


Figure S4: Single dose DT administration allows for the assessment of ASC reconstitution kinetics in J-DTR mice. Related to Figure 5. (A) Schematic showing DT treatment of J-DTR mice. 3-4 months old animals were given a single i.p. dose of 200 ng DT in 100 μ L 1x PBS. Control mice received 100 μ L of 1x PBS. Mice were euthanized at days 1, 3 and 7 post-injection. SPL, BM and THY were assessed for B cell populations via flow cytometry. Schematic made with BioRender. **(B-C)** B cell numbers for **(B)** SPL and **(C)** THY of J-DTR mice treated with PBS or DT. Data presented on Log₁₀ scale to show full range. **(D-E)** GCB (or GCB-like) numbers for **(D)** SPL and **(E)** THY of J-DTR mice treated with PBS or DT. Data presented on Log₁₀ scale to show full range. **(B-E)** Symbols represent individual female (orange) and male (blue) mice. Horizontal lines represent mean \pm SEM. J-DTR day 1 PBS: female n = 2, male n = 2; J-DTR day 1 DT: female n = 2, male n = 1; J-DTR day 3 PBS: female n = 2, male n = 2; J-DTR day 3 DT: female n = 1, male n = 2; J-DTR day 7 PBS: female n = 2, male n = 2; J-DTR day 7 DT: female n = 2, male n = 2. Statistics: Kruskal-Wallis test (nonparametric) with Dunn's multiple comparisons test. Comparisons made between PBS and DT treatments for a given day.