

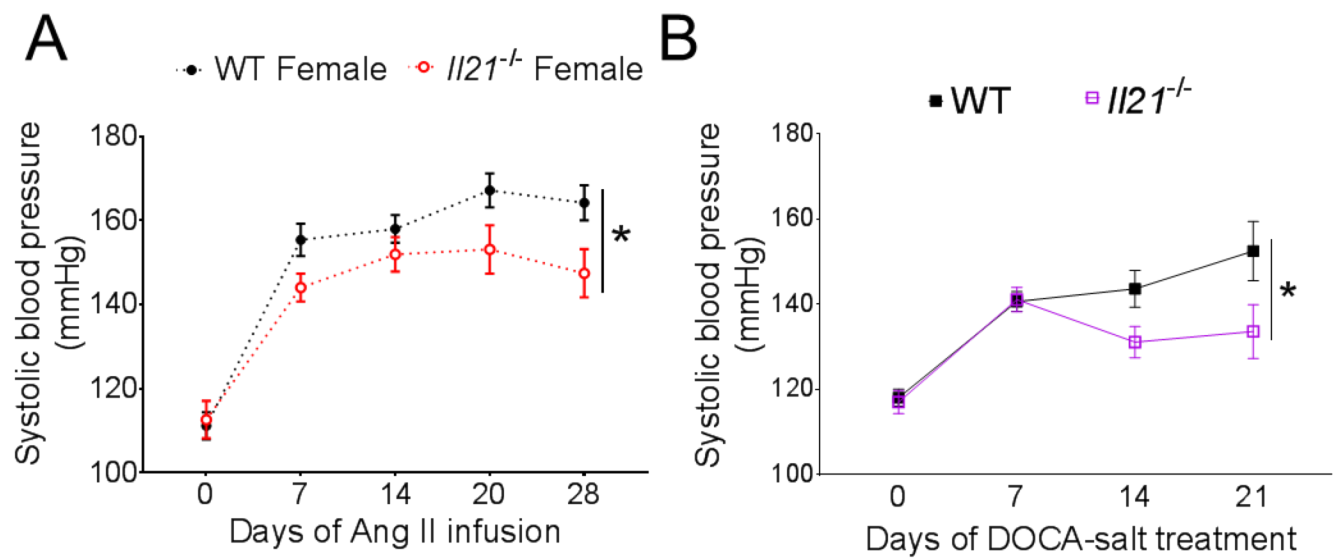


Figure S1. IL21 deficiency blunts Ang II-induced hypertension in female mice and the hypertensive response to DOCA-salt treatment. (A) Systolic blood pressures were measured by tail-cuff weekly over 28 days of Ang II infusion in WT and *Il21*^{-/-} female mice (n=9). **(B)** Systolic blood pressures were measured by tail-cuff weekly over 21 days DOCA-salt treatment in WT and *Il21*^{-/-} mice (n=6-8). Data are expressed as mean±SEM; * $P < 0.05$ by 2-way ANOVA with repeated measures.

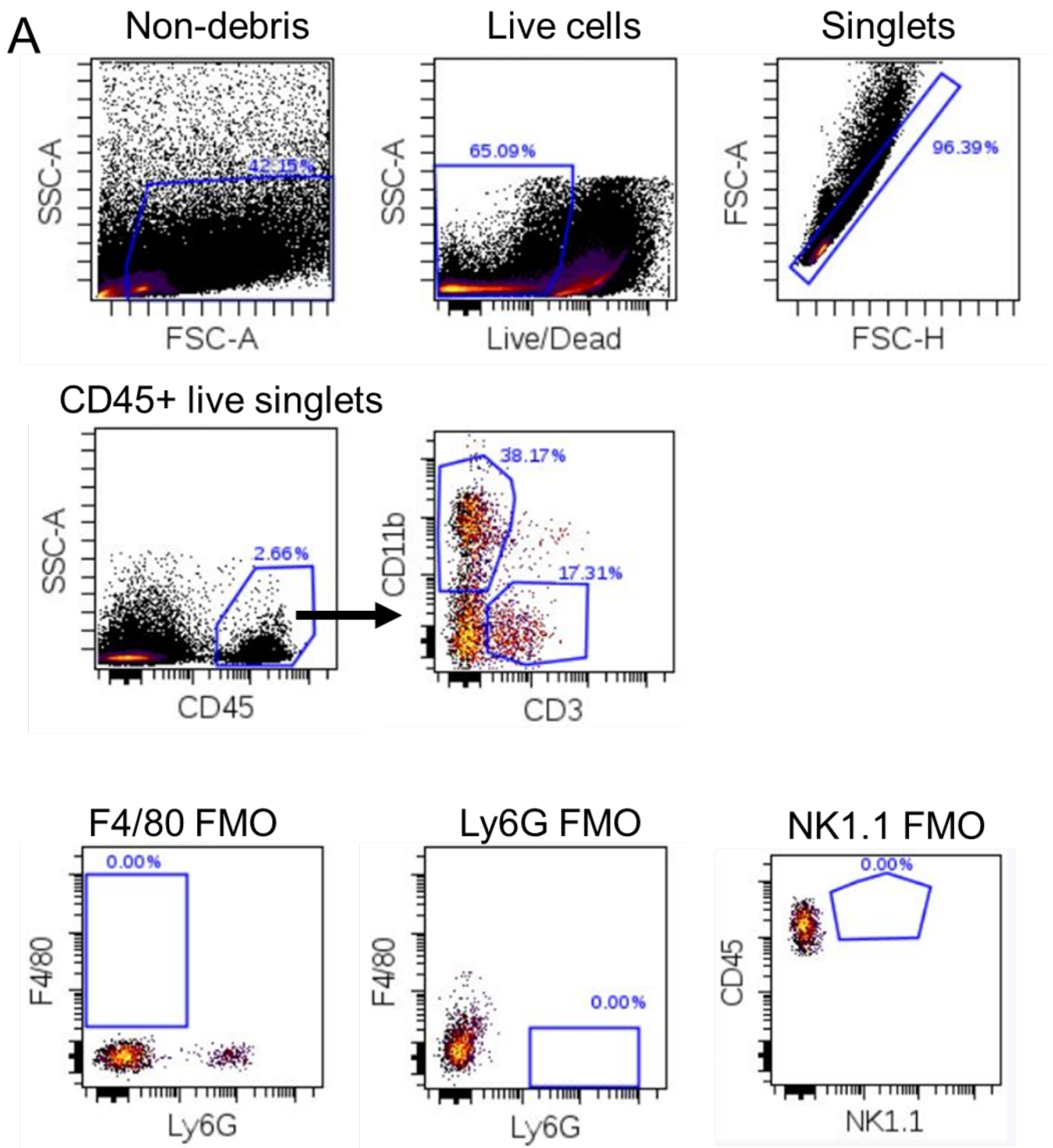


Figure S2. Innate panel gating strategy and fluorescence minus one (FMO) controls. Gating strategy to identify total CD45⁺ leukocytes from live singlets in aortic single cell suspensions. CD11b⁺ and CD3⁺ cells were gated from CD45⁺ cells. Macrophages (F4/80⁺Ly6G⁻) and neutrophils (F4/80⁻Ly6G⁺) were gated from CD11b⁺ cells and natural killer (NK) T cells (NK1.1⁺) were gated from CD3⁺ cells. FMO controls for each terminal marker are shown below.

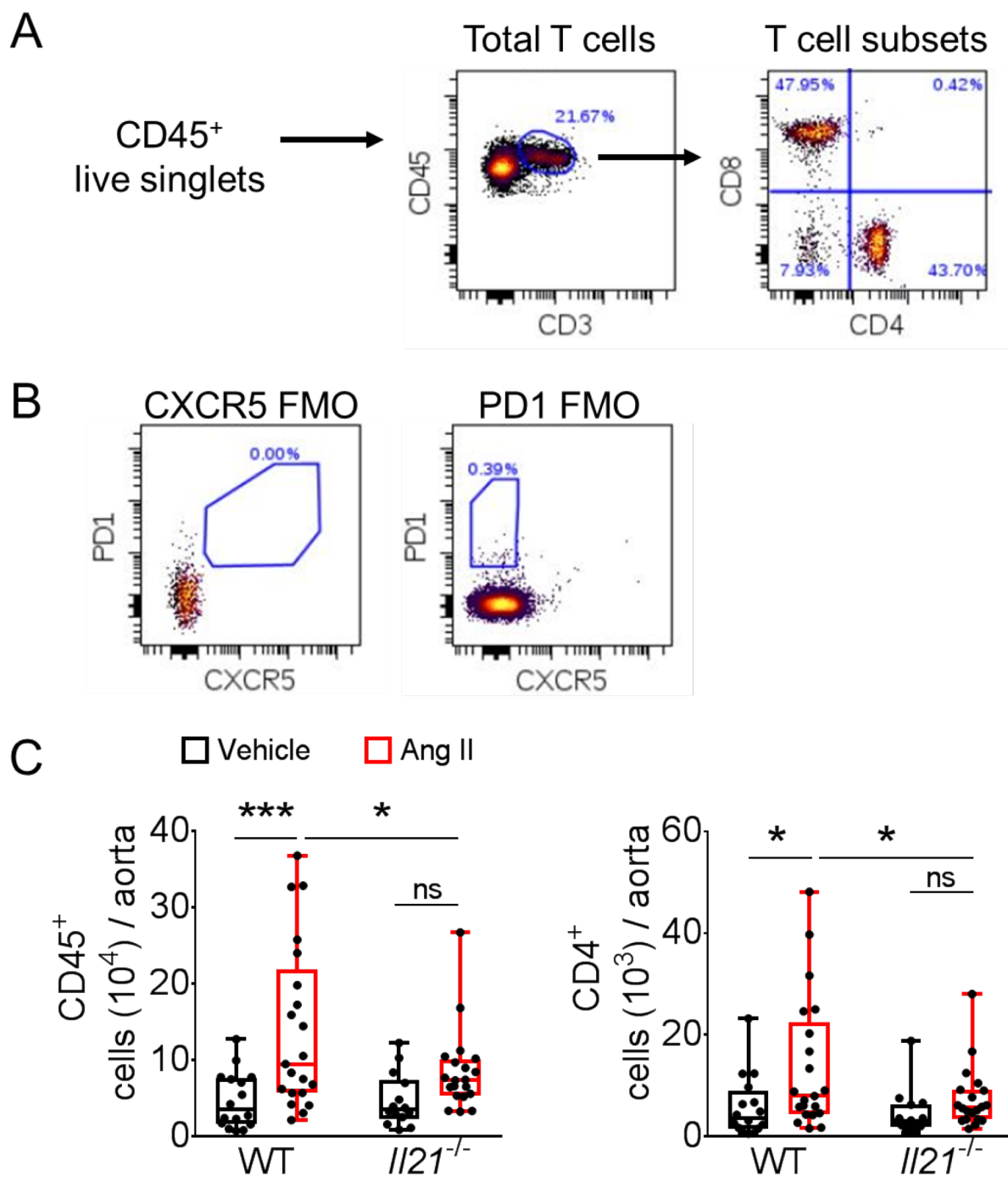


Figure S3. T cell panel gating strategy and FMO controls. (A) Gating strategy to identify total CD3⁺ leukocytes from live CD45⁺ singlets in aortic single cell suspensions. CD4⁺ and CD8⁺ cells were gated from CD3⁺ cells. Tfh cells (PD1⁺CXCR5⁺) and Tph cells (PD1⁺CXCR5⁻) were gated from CD4⁺ cells. **(B)** FMO controls for each terminal marker. **(C)** Summary quantification of CD45⁺ total leukocytes and CD4⁺ T cells from WT and *Il21*^{-/-} mice after 28 days of Ang II or vehicle infusion (n=14-21). Data are expressed as box and whisker plots; **P*<0.05, ****P*<0.001 by 2-way ANOVA.

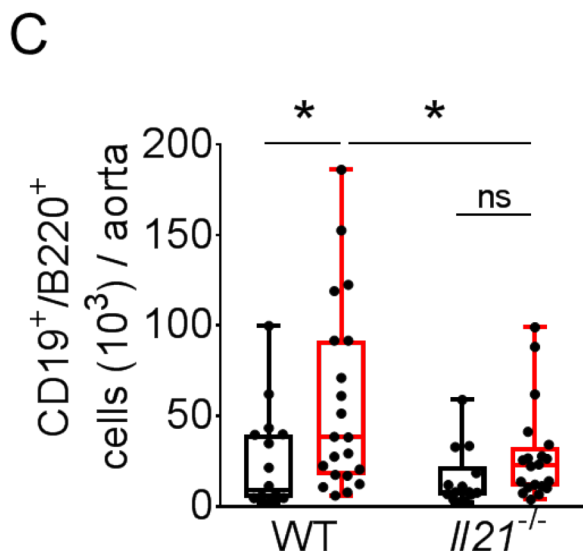
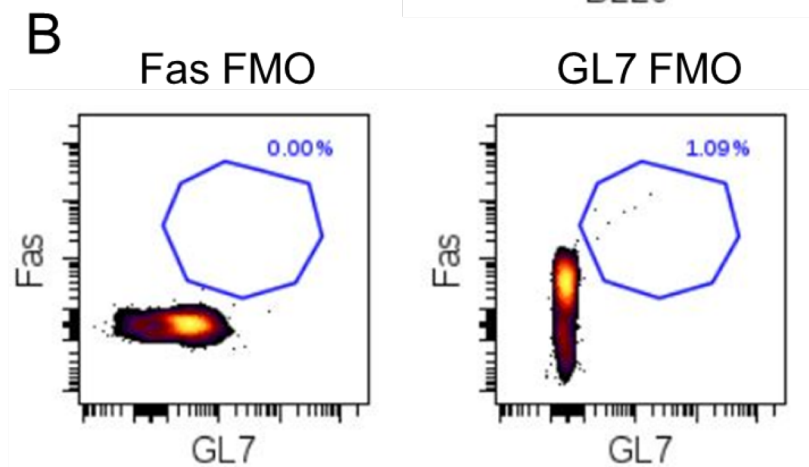
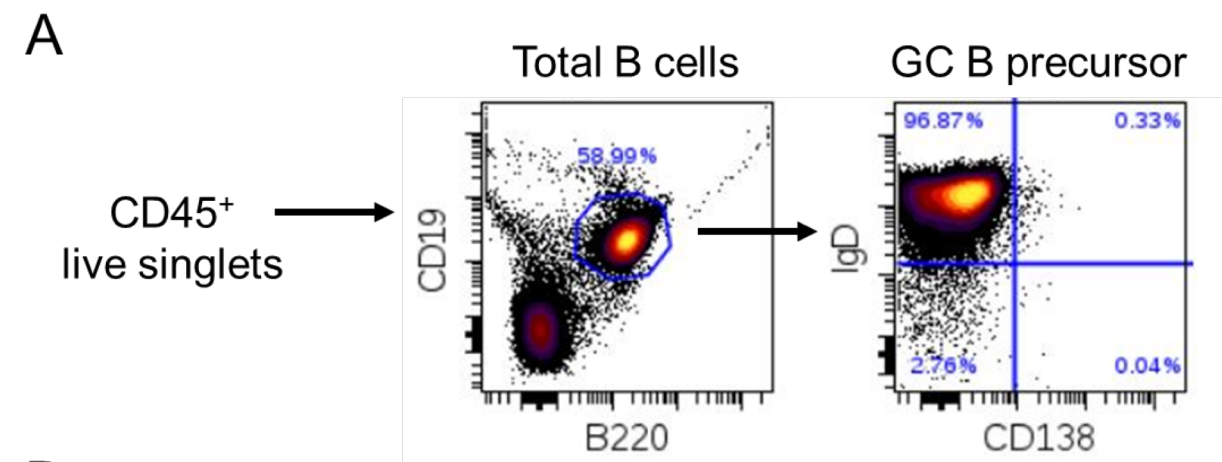


Figure S4. B cell panel gating strategy and FMO controls. (A) Gating strategy to identify total CD19⁺B220⁺ B cells from live CD45⁺ singlets in aortic single cell suspensions. IgD⁻CD138⁻ cells were gated from CD19⁺B220⁺ B cells. GC B cells (Fas⁺GL7⁺) were gated from IgD⁻CD138⁻ cells. **(B)** FMO controls for each terminal marker. **(C)** Summary quantification of total CD19⁺B220⁺ B cells from WT and *Il21*^{-/-} mice after 28 days of Ang II or vehicle infusion (n=14-20). Data are expressed as box and whisker plots; **P*<0.05 by 2-way ANOVA.

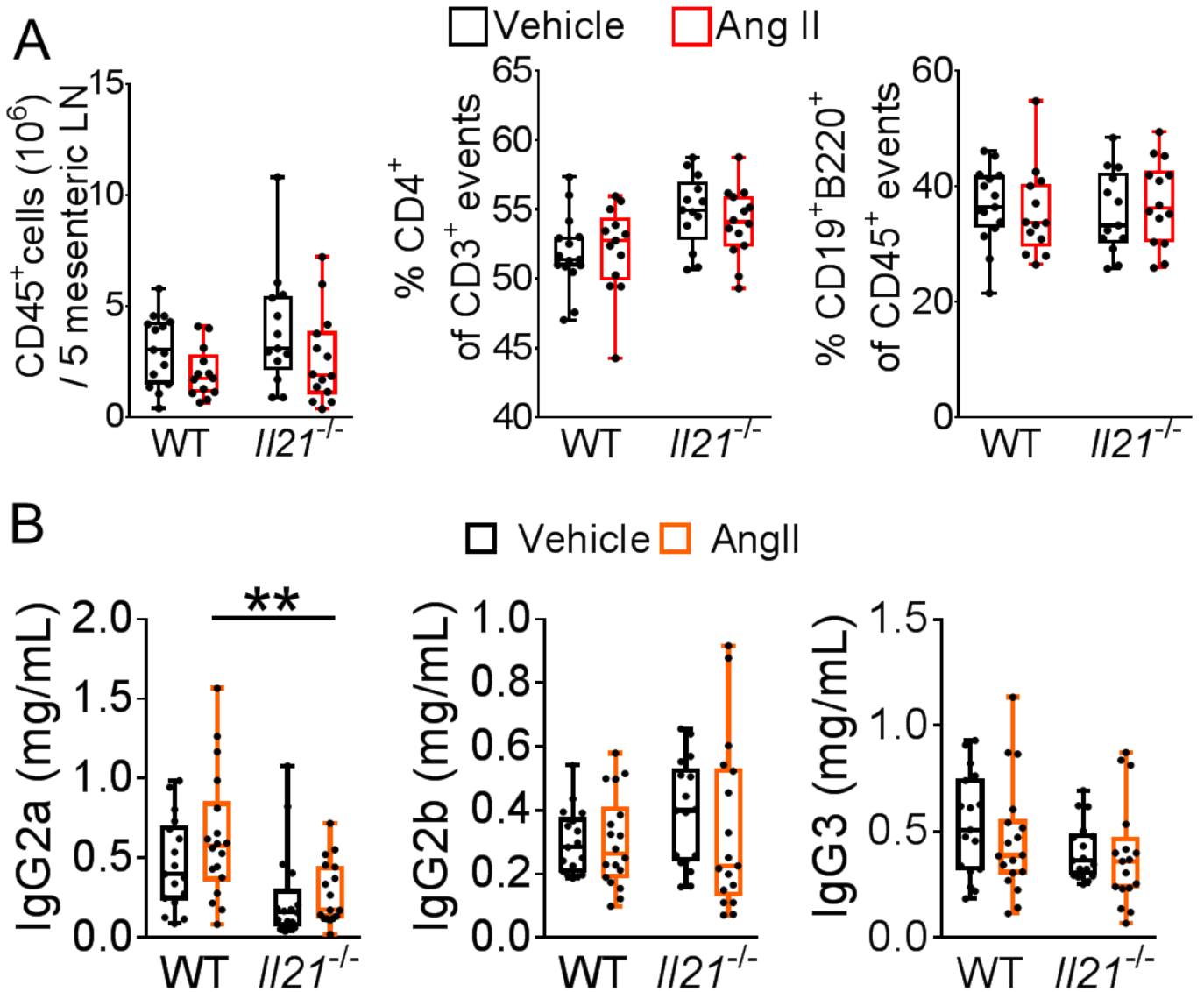


Figure S5. Flow cytometry of mesenteric lymph nodes and plasma immunoglobulin quantification. WT and *Il21*^{-/-} mice were infused with Ang II or vehicle for 28 days. **(A)** Summary quantification of CD45⁺ total leukocytes, percent CD4⁺ T cells, and percent CD19⁺B220⁺ B cells in mesenteric lymph nodes (n=13-15). **(B)** Plasma immunoglobulin concentration of IgG2a, IgG2b, and IgG3 (n=17-18). Data are expressed as box and whisker plots; ***P*<0.01 by 2-way ANOVA.

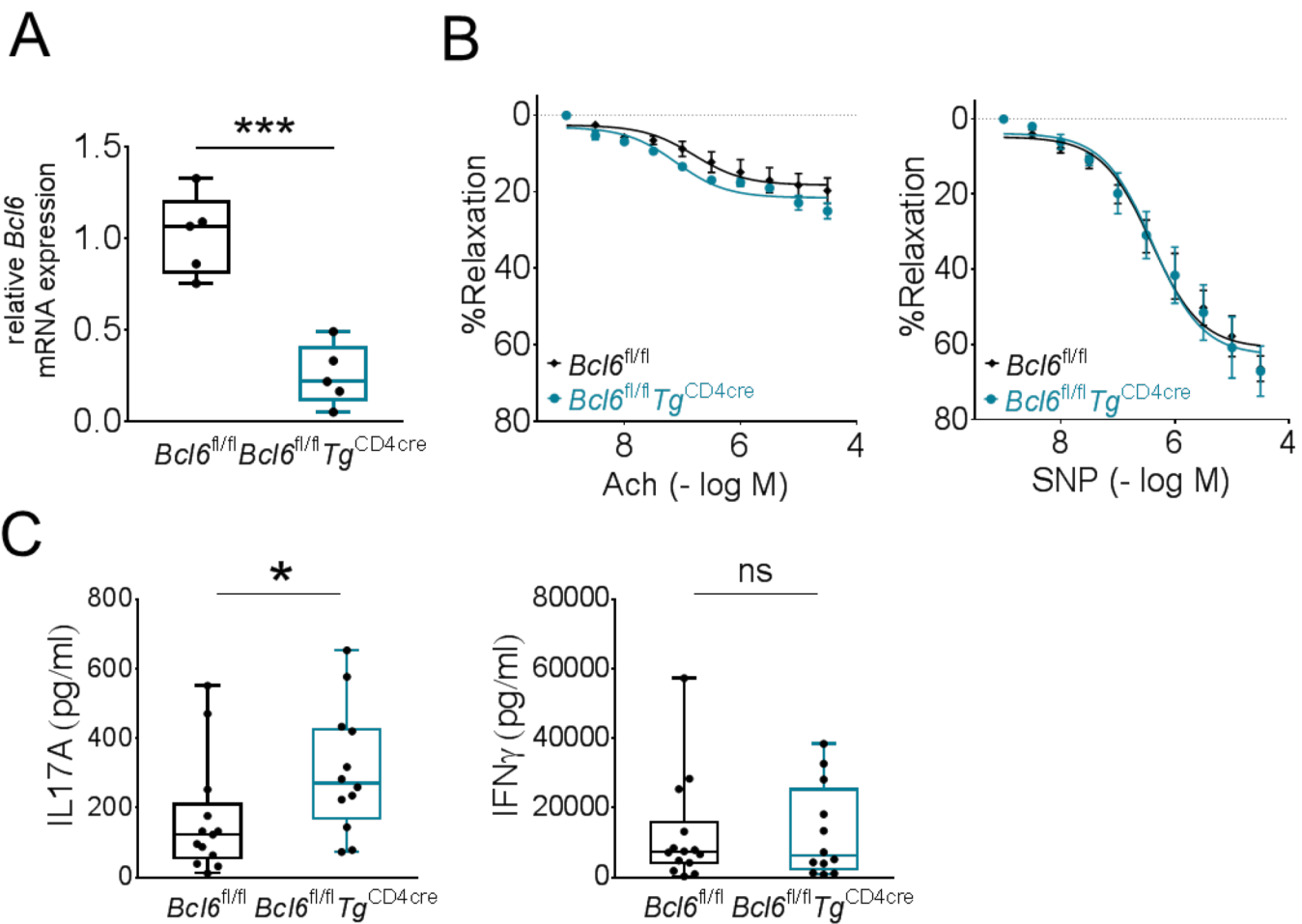


Figure S6. CD4⁺ T cell BCL6 expression, vascular reactivity, and splenic cytokine production from *Bcl6*^{fl/fl} and *Bcl6*^{fl/fl} *Tg*^{CD4cre} mice. *Bcl6*^{fl/fl} *Tg*^{CD4cre} and control *Bcl6*^{fl/fl} littermates were infused with Ang II or vehicle for 28 days. **(A)** Relative *Bcl6* mRNA expression by quantitative real time PCR of splenic CD4⁺ T cells (n=5). **(B)** Endothelium-dependent relaxation in response to increasing doses of acetylcholine (Ach) (left) and endothelium-independent relaxation in response to increasing doses of sodium nitroprusside (SNP) (right) were measured in isolated mesenteric arterioles (n=5-6). **(C)** Splenic CD4⁺ T cell production of interleukin 17A (IL17A) and CD8⁺ T cell production of interferon gamma (IFN γ) quantified by ELISA (n=12-14). Data are expressed as box and whisker plots (**A,C**) or mean $\pm$ SEM (**B**) ; **P*<0.05 by Mann Whitney test (**C**); ****P*<0.001 by Student's *t*-test (**A**).

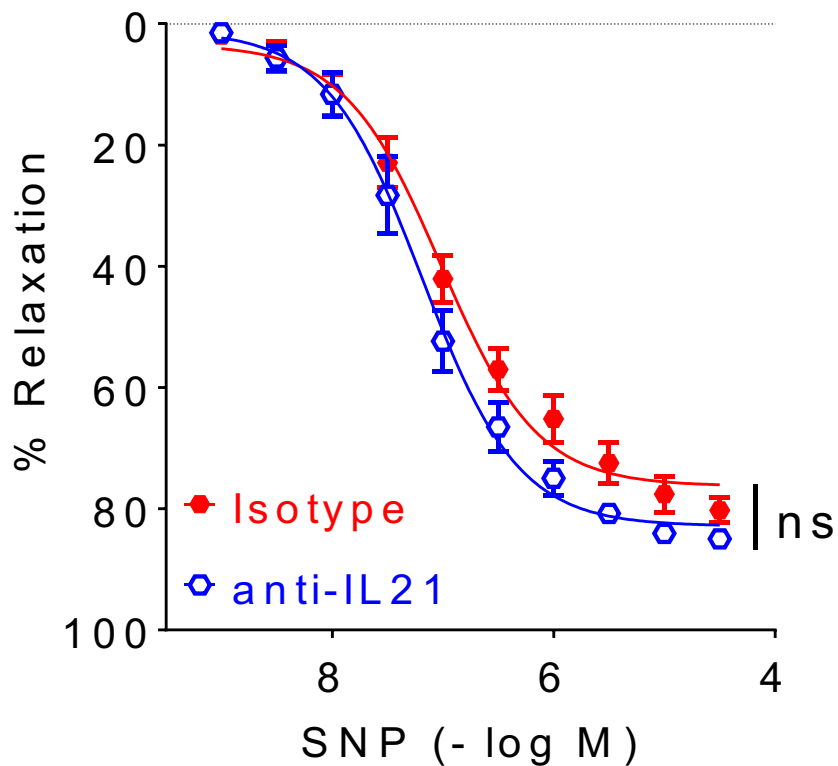


Figure S7. Endothelium-independent relaxation to sodium nitroprusside (SNP) is not affected by anti-IL21 treatment. WT mice were infused with Ang II for 4 weeks. Isotype control or IL21 neutralizing antibodies were administered twice weekly during the last 2 weeks of Ang II infusion. Endothelium-independent relaxation in response to increasing doses of SNP was measured in isolated mesenteric arterioles from both groups (n=7-8). Data are expressed as mean $\pm$ SEM.

Supplemental Table 1. Characteristics of the participants (n=37)

Age (yrs, x $\pm$ SEM)	44.9 $\pm$ 1.9
Sex (F/M, n/n, %/%)	26/11, 70.3/29.7
Race (W/B, n/n, %/%)	14/23, 37.8/62.2
SBP (mmHg, x $\pm$ SEM)	125.4 $\pm$ 1.8
DBP (mmHg, x $\pm$ SEM)	75.0 $\pm$ 1.3
HR (bpm, x $\pm$ SEM)	67.7 $\pm$ 1.6
BMI (Kg/m ² , x $\pm$ SEM)	29.0 $\pm$ 1.1

F=female, M=male, W=white, B=black, SBP=systolic blood pressure, DBP=diastolic blood pressure, HR=heart rate, BMI=body mass index