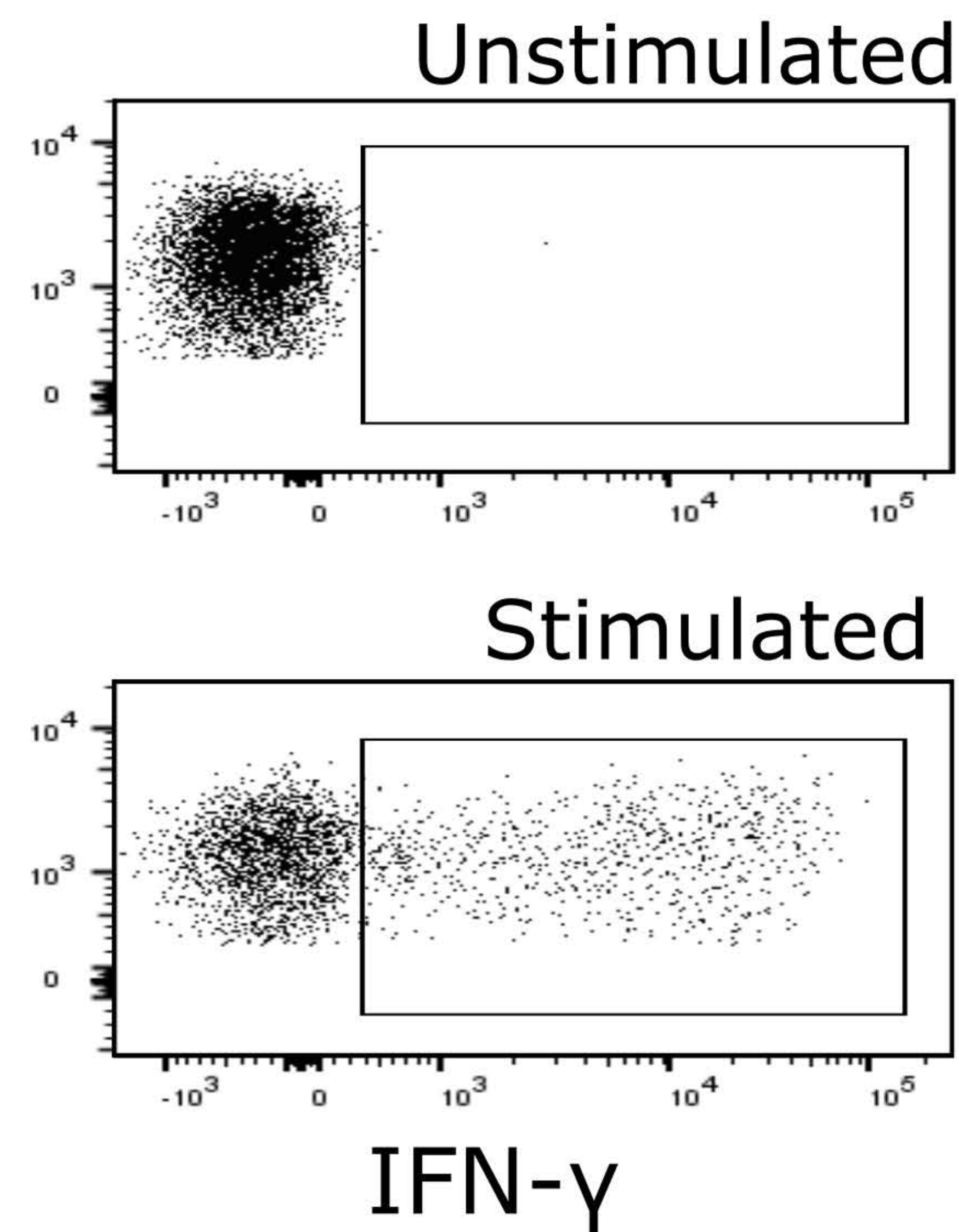
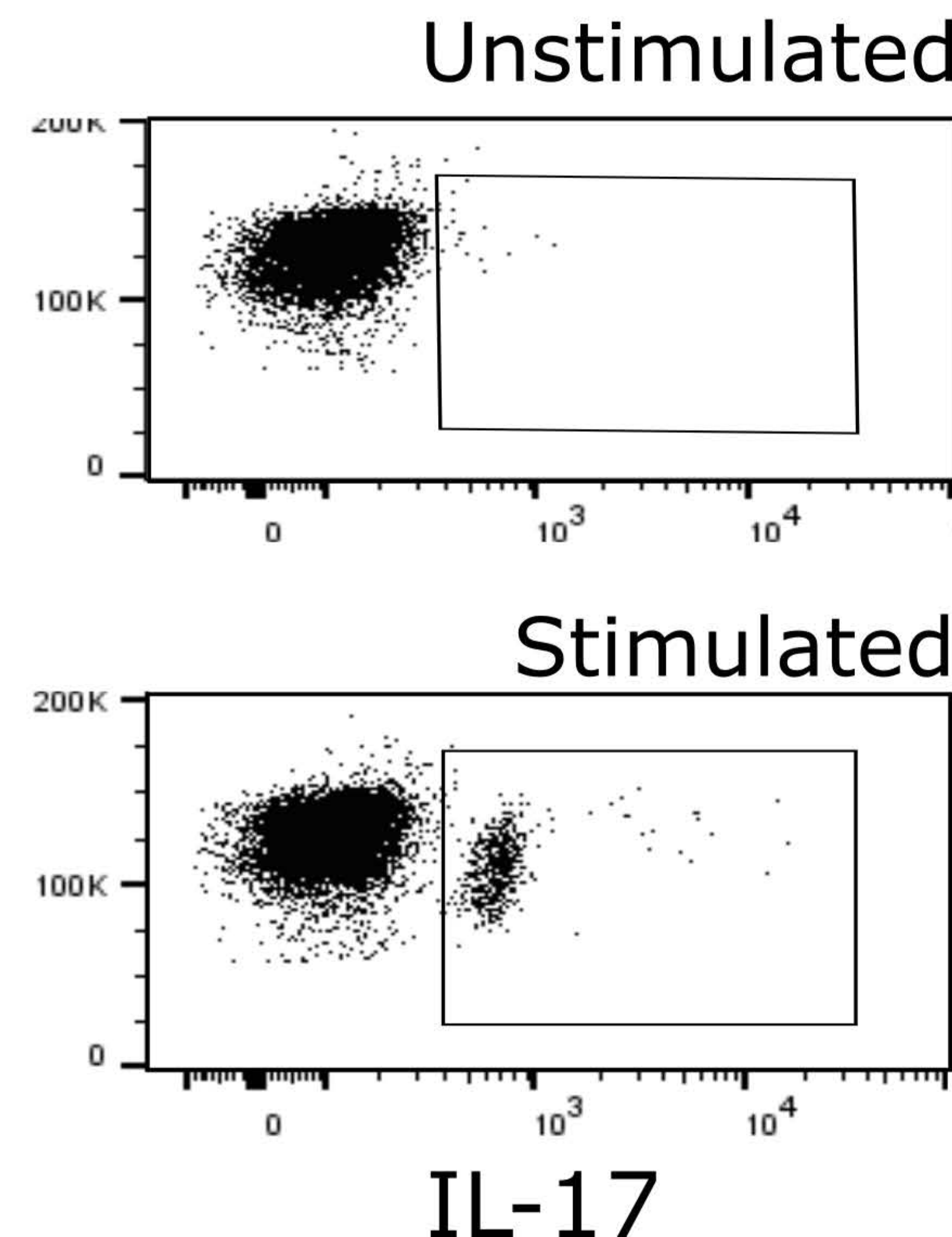


# Supplementary figure 1

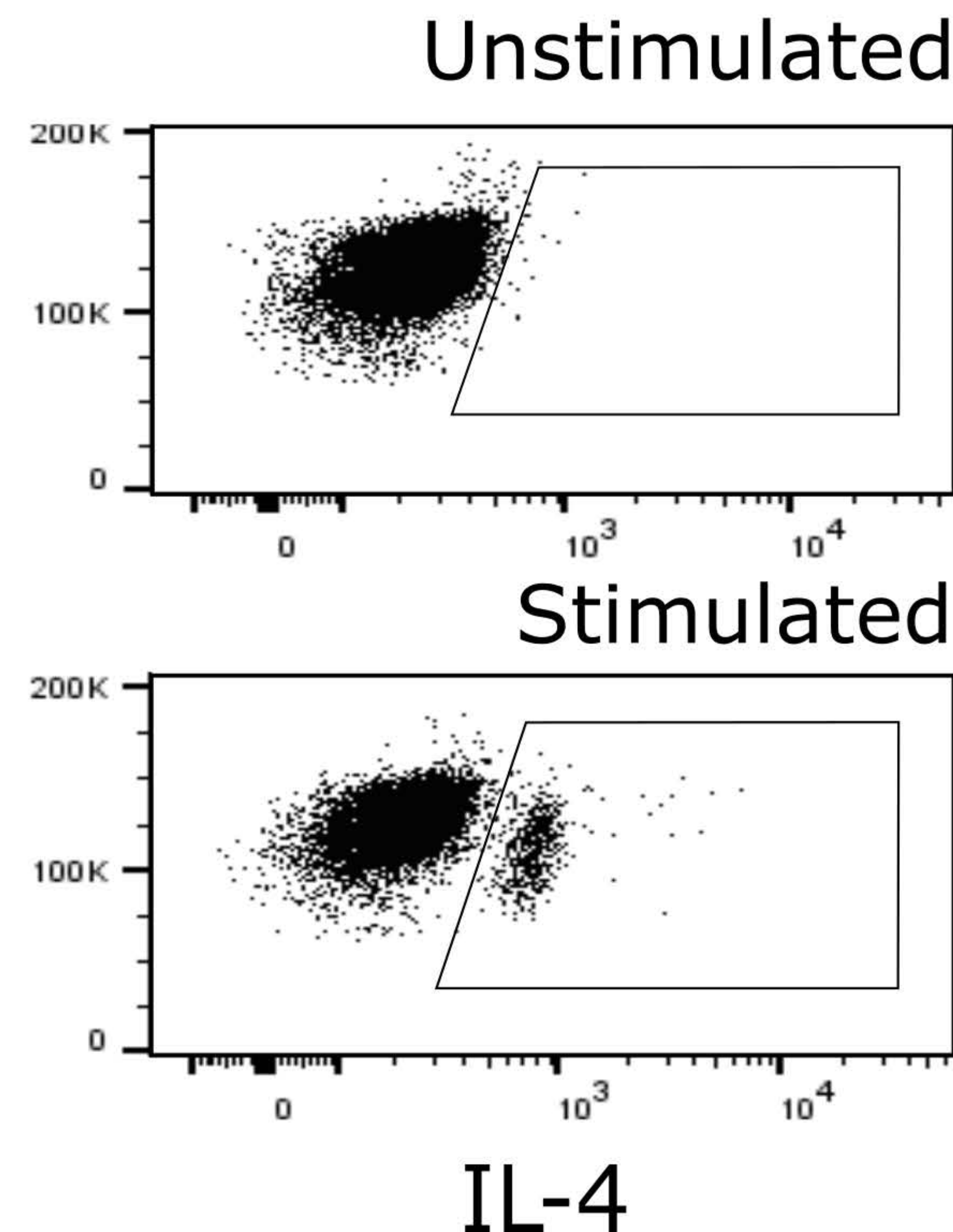
A



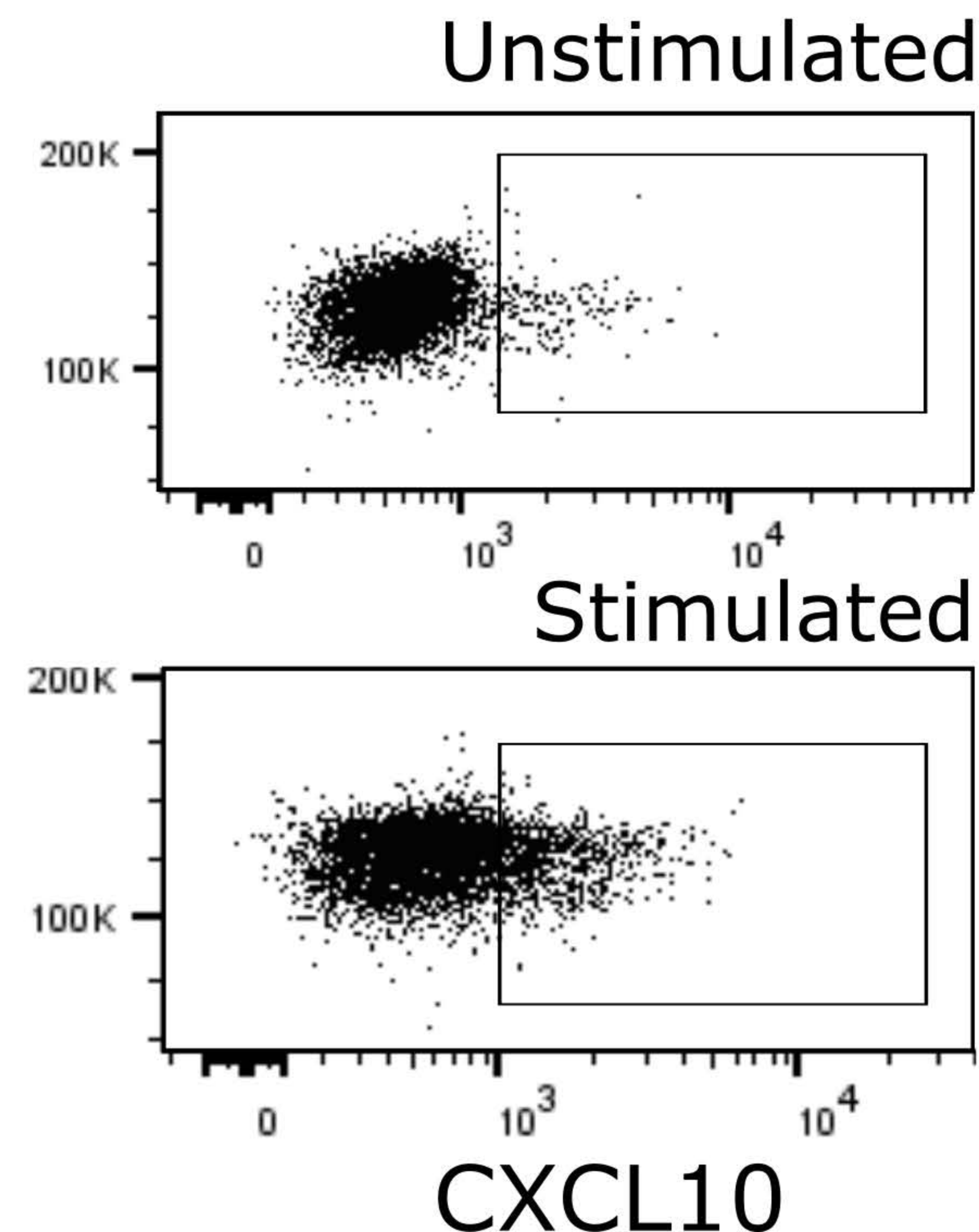
B



C



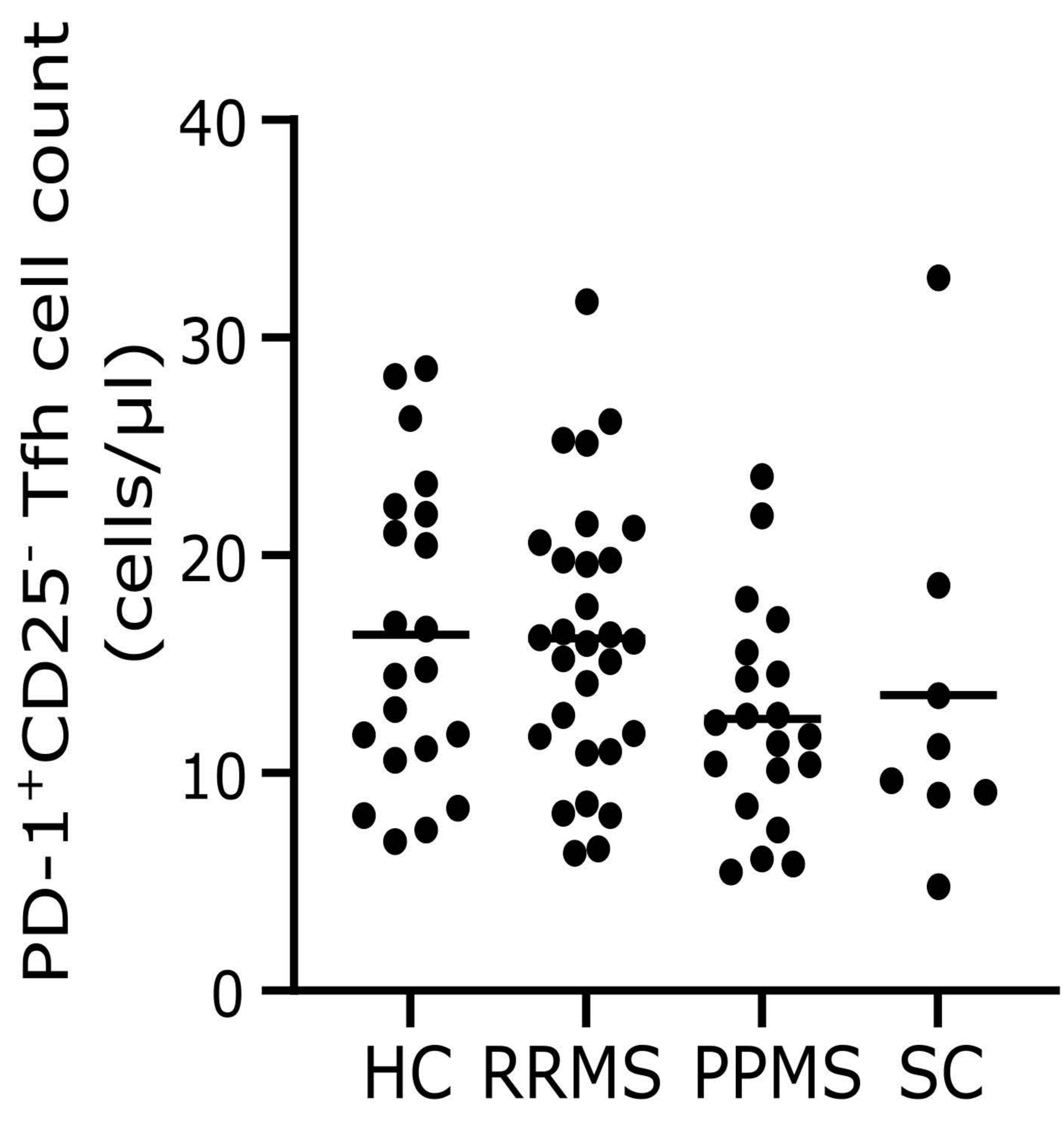
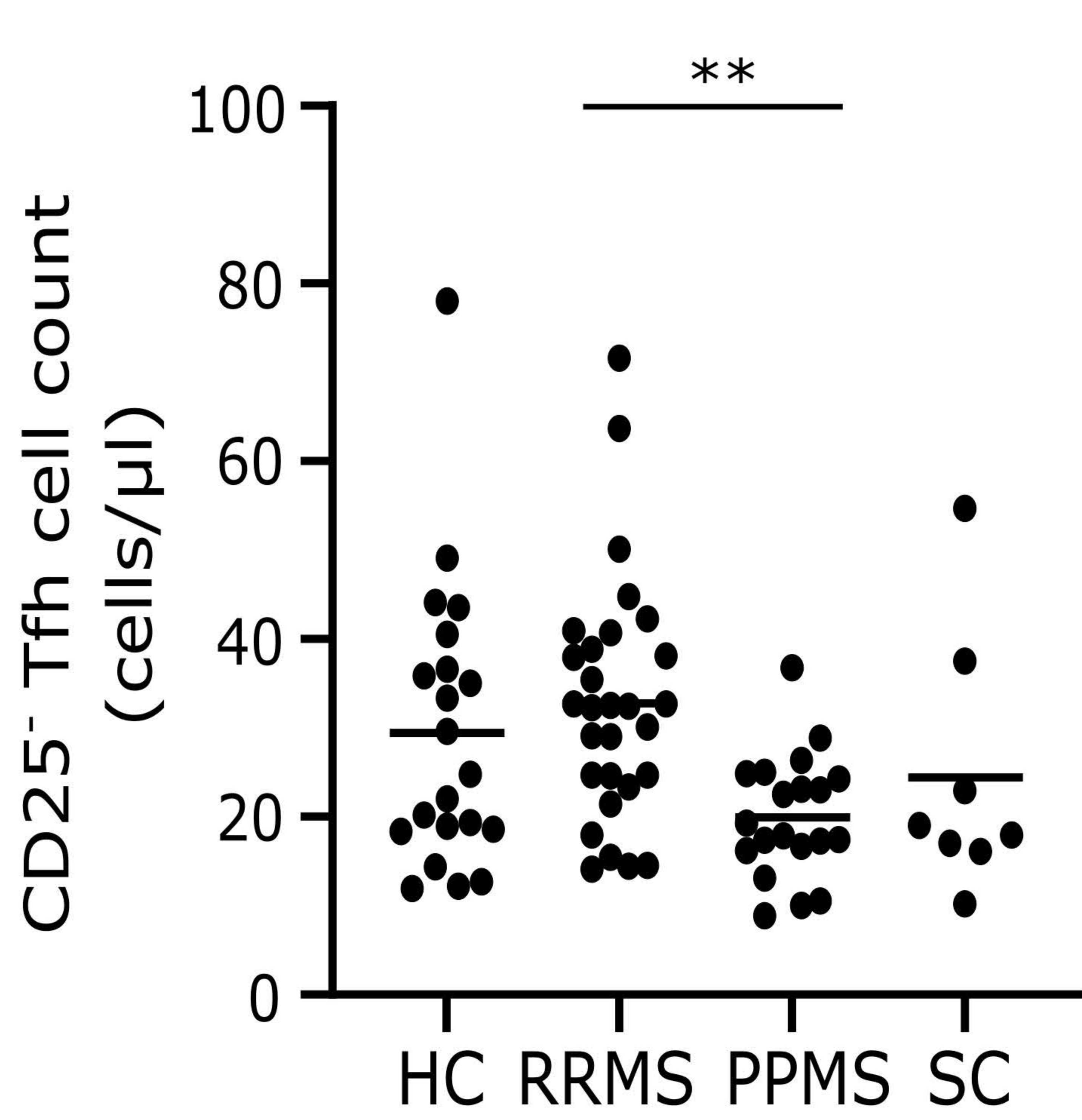
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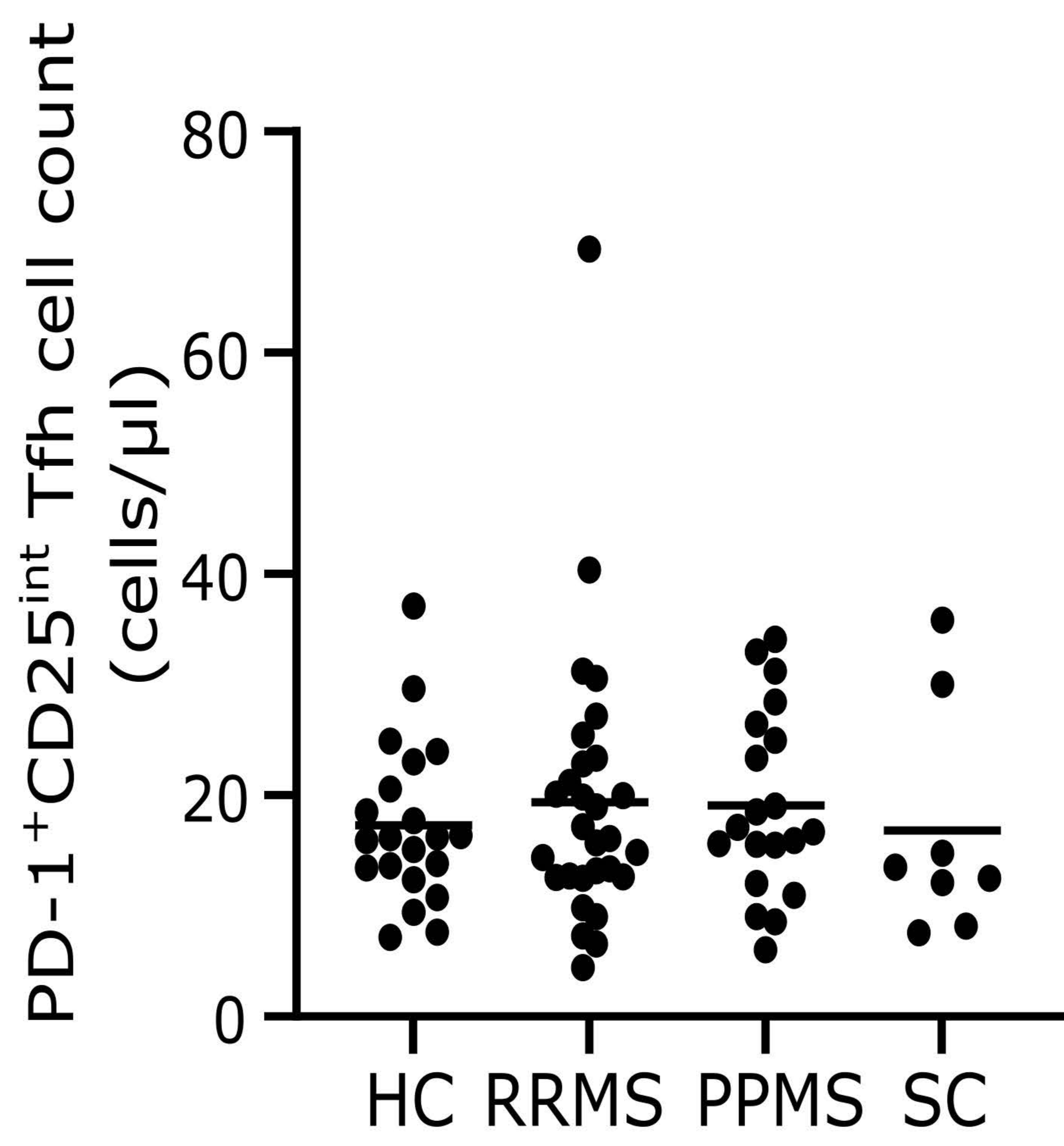
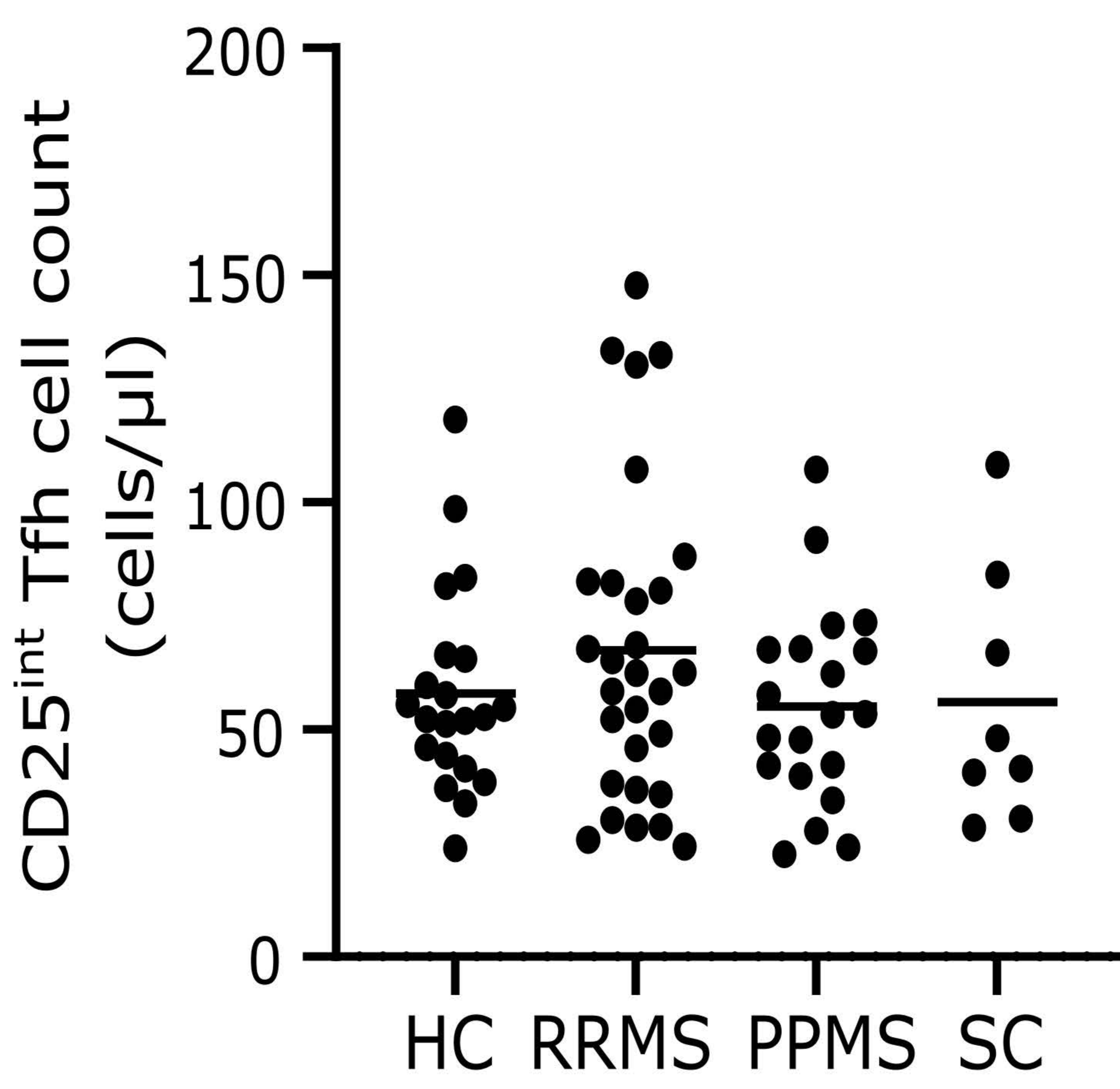


# Supplementary figure 2

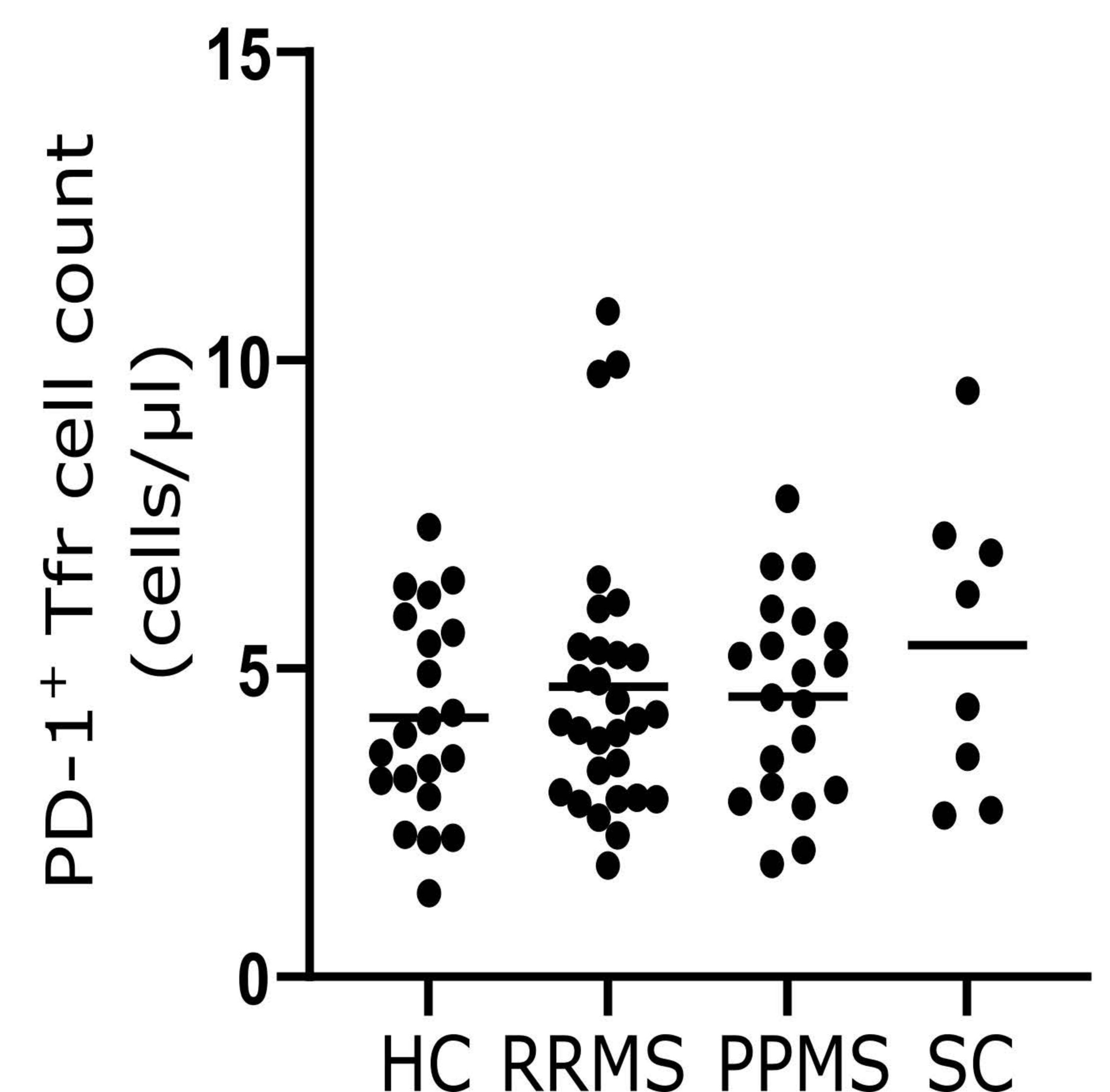
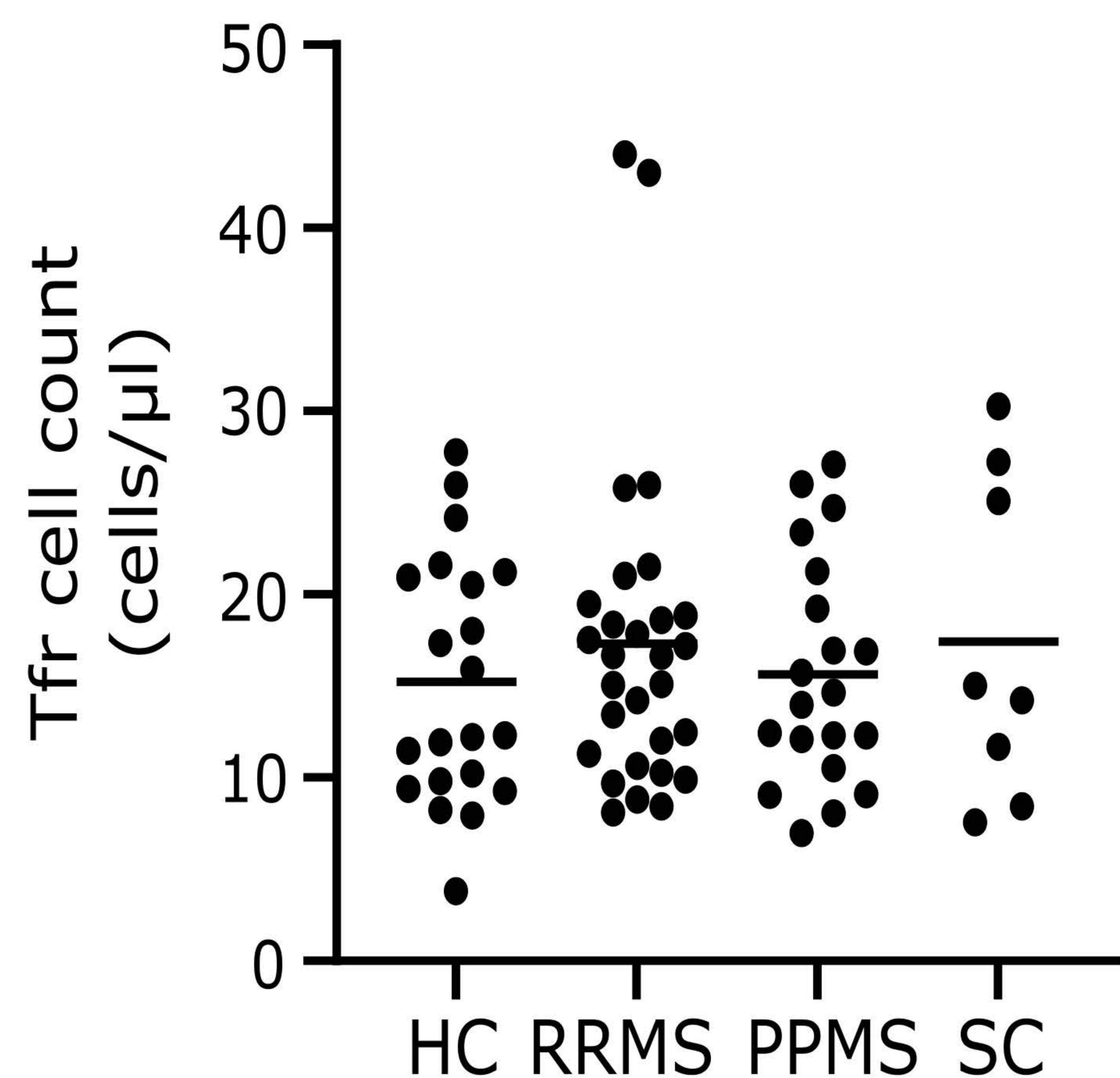
A



B

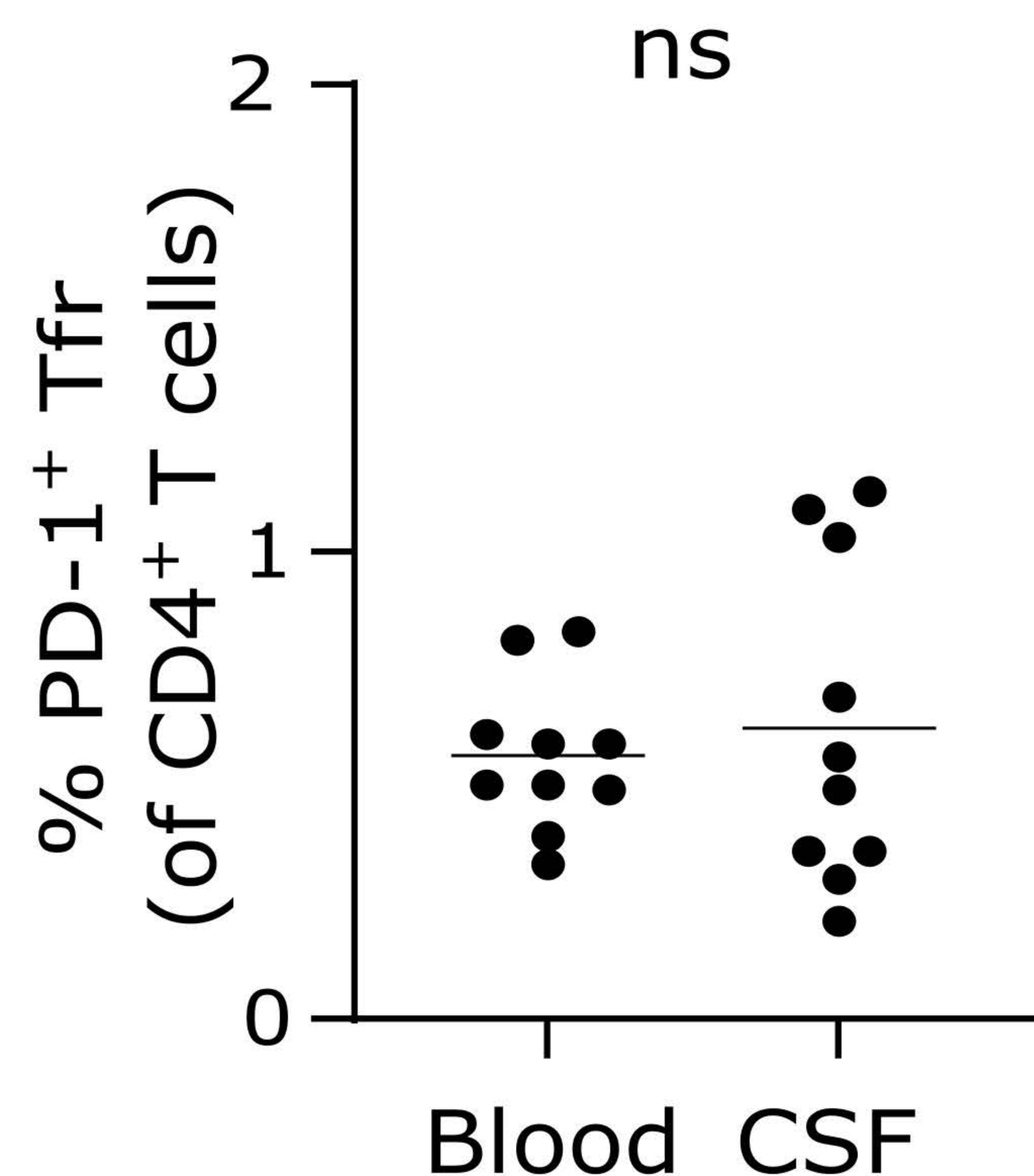
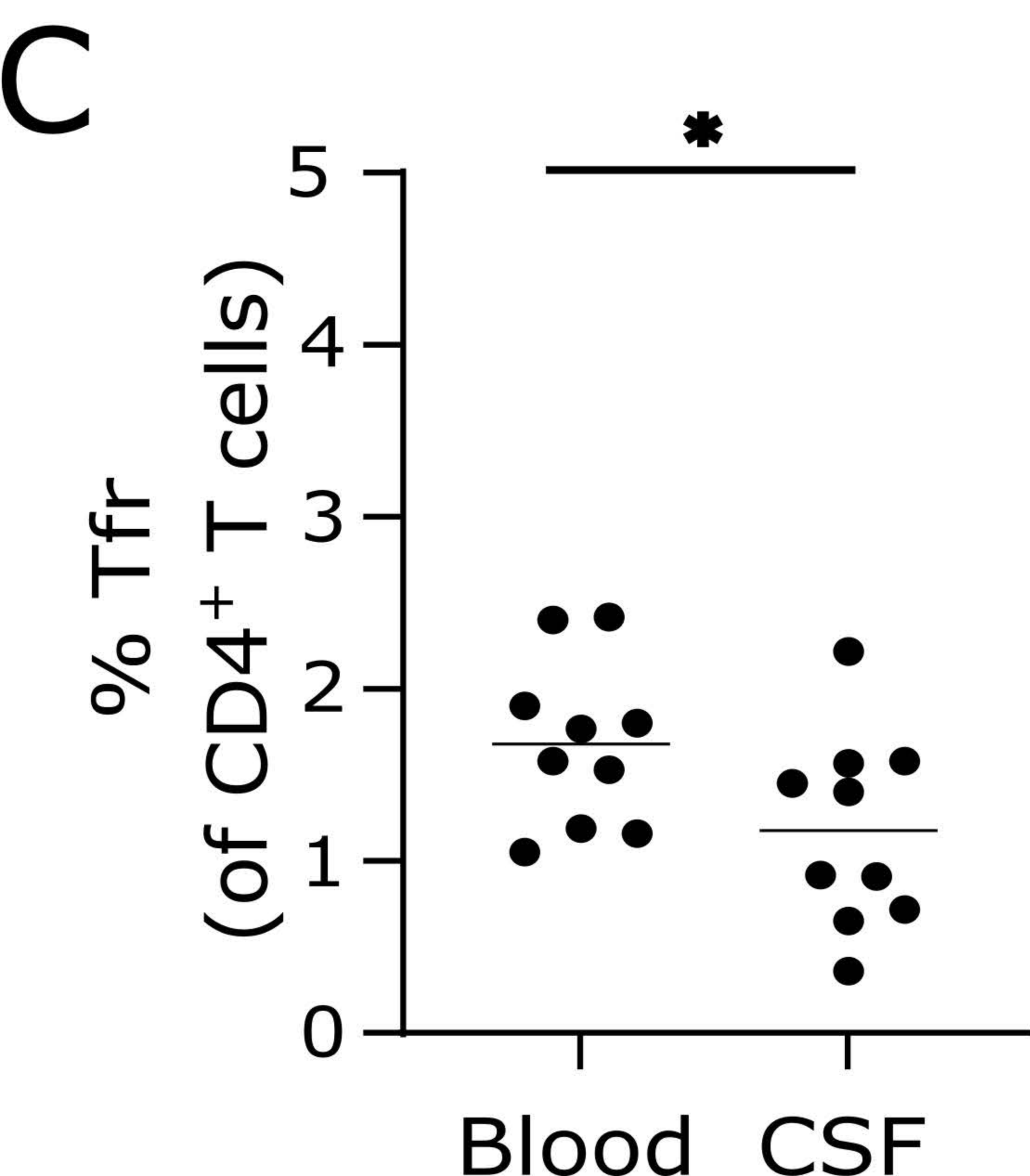
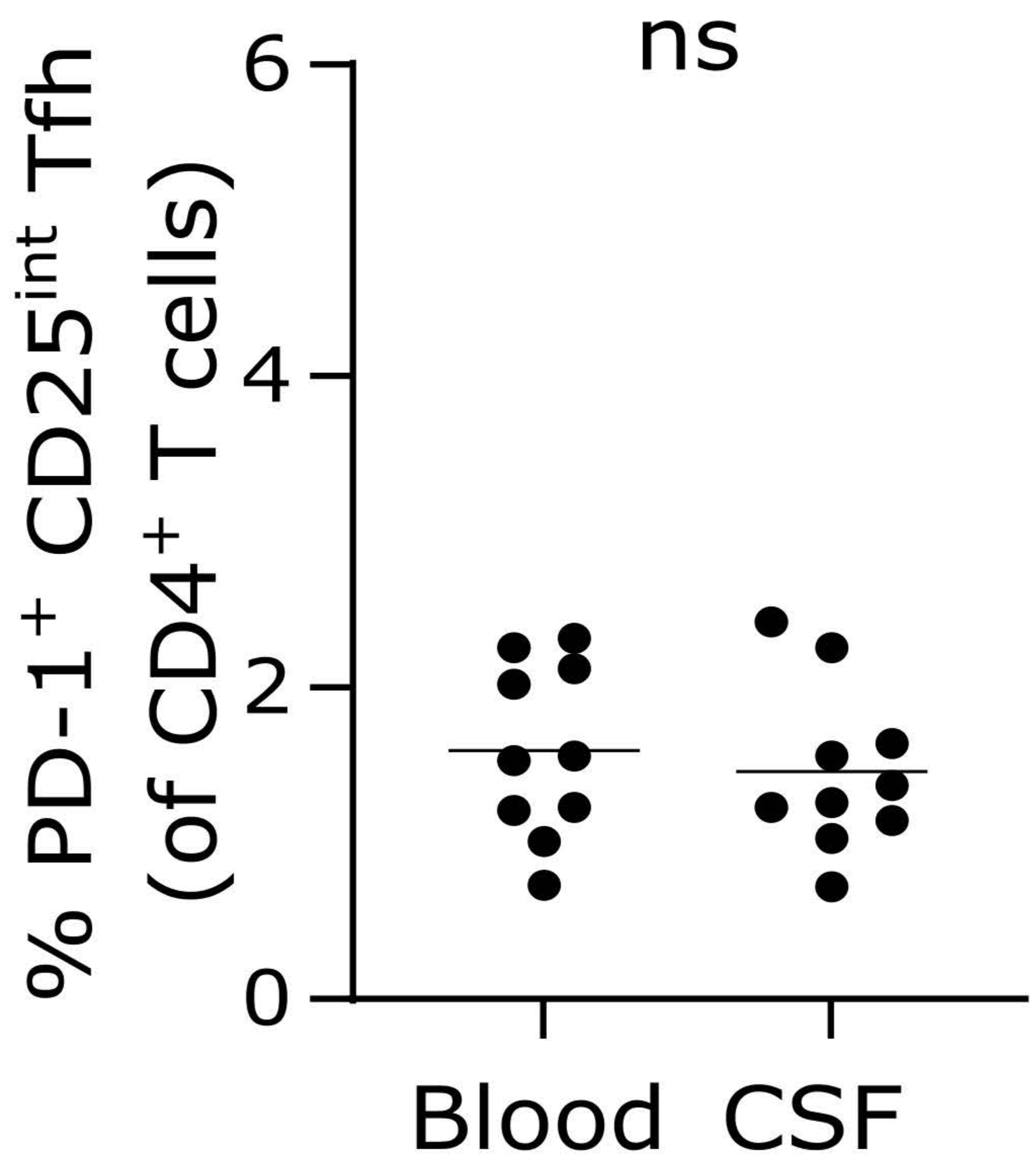
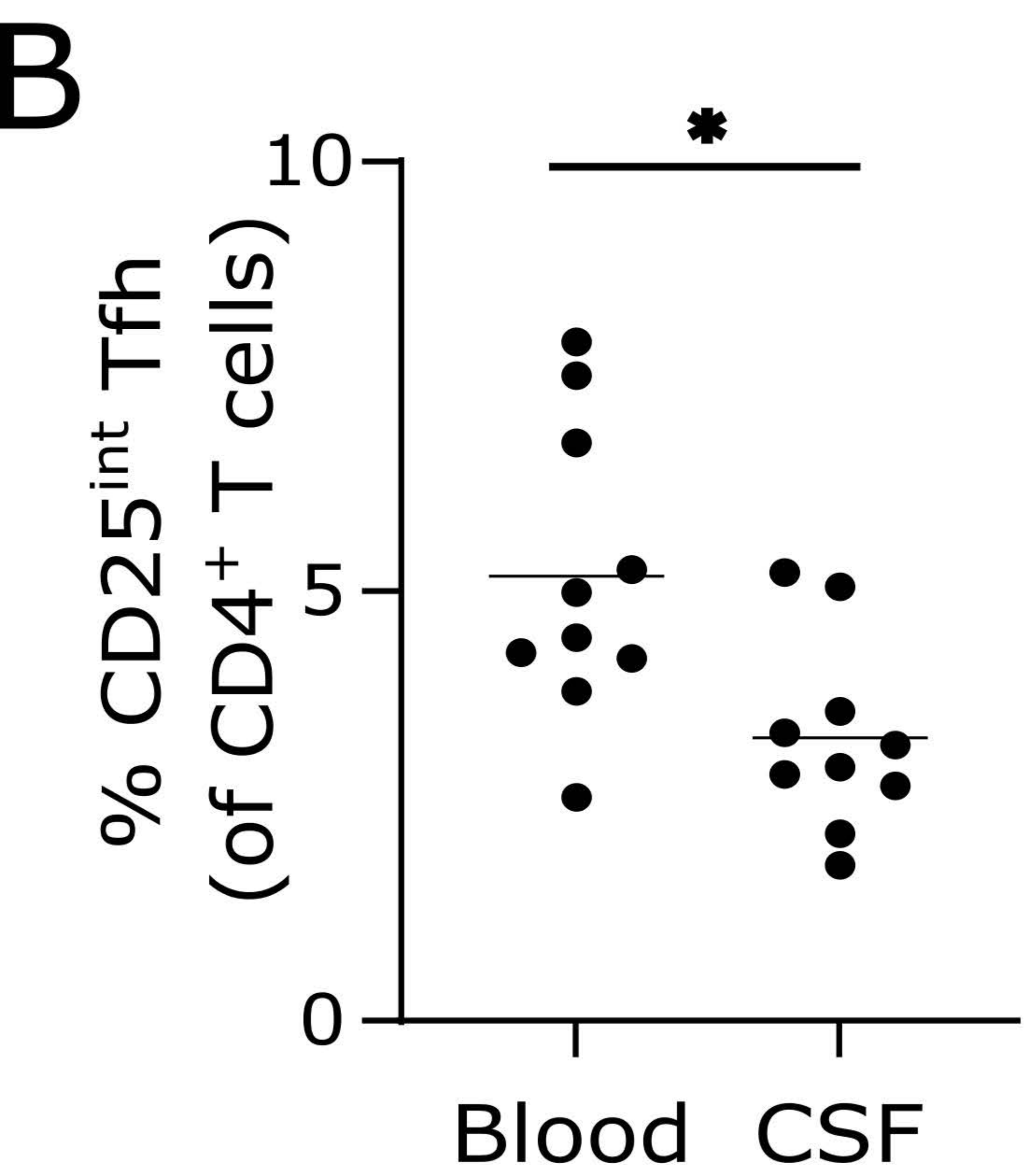
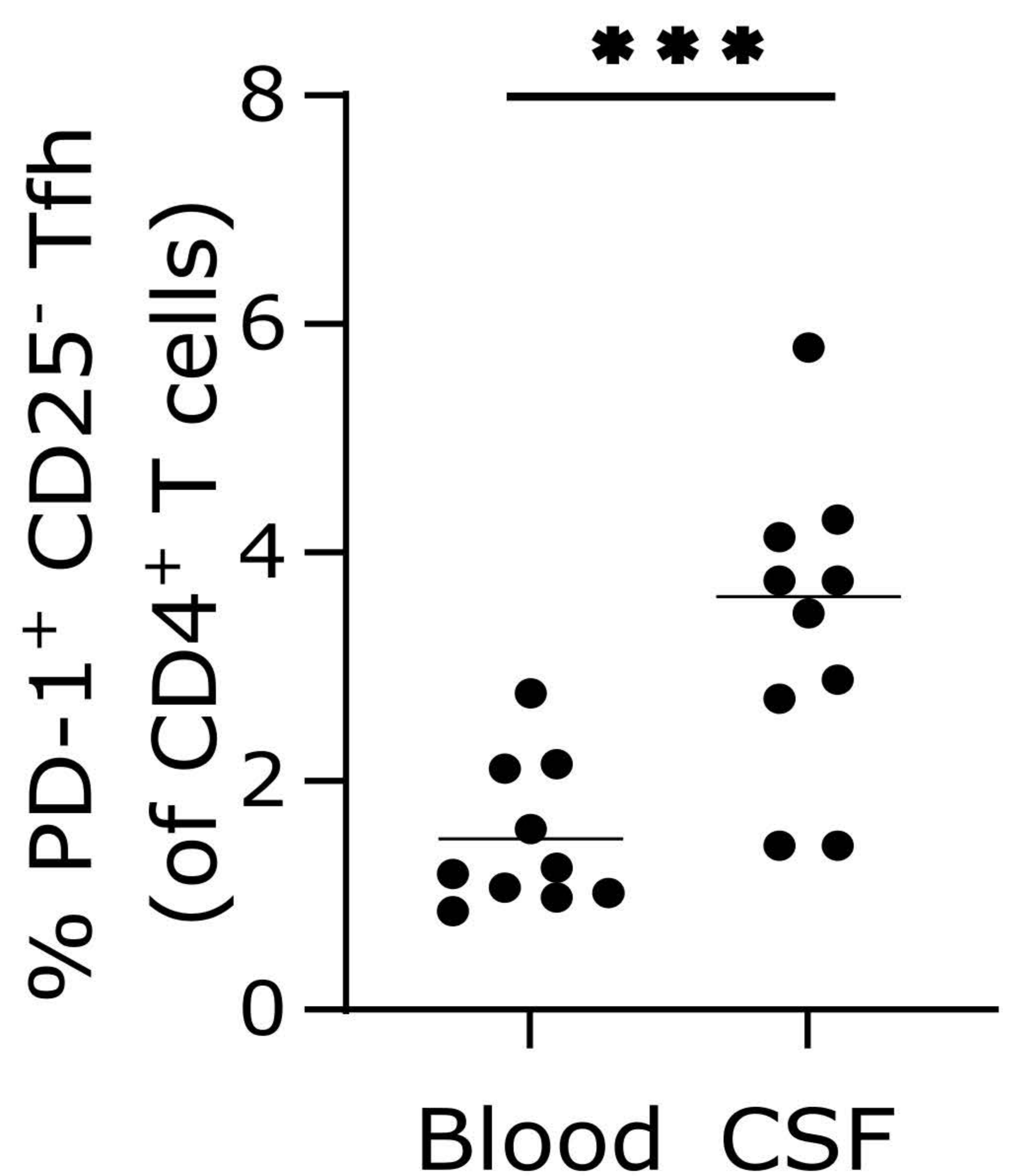
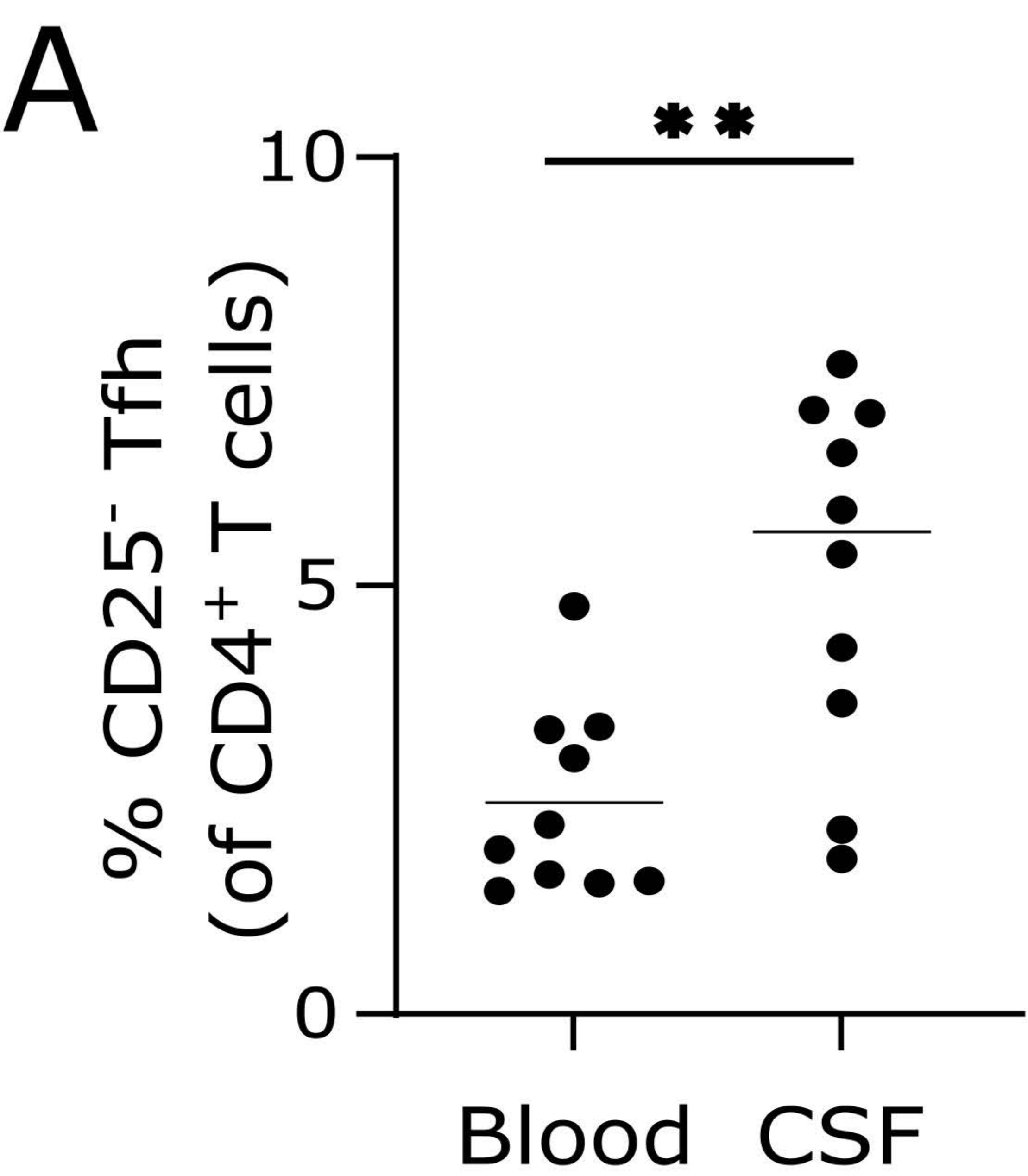


C





# Supplementary figure 3



### **Supplementary figure 1. Intracellular cytokine and chemokine gating examples**

(A-D) Dot plot gating examples of intracellular cytokine and chemokine staining of Tfh cells: IFN- $\gamma$  (A), IL-17 (B), IL-4 (C), and CXCL10 (D); the *upper* panel shows unstimulated cells, and the *lower* panel show cells stimulated for 30 minutes with anti-CD3/CD28 beads.

### **Supplementary figure 2. Absolute Tfh and Tfr counts in blood**

(A-C) Absolute counts of CD25<sup>-</sup> Tfh cells and PD-1<sup>+</sup> CD25<sup>-</sup> Tfh cells (A), CD25<sup>int</sup> Tfh cells and PD-1<sup>+</sup> CD25<sup>int</sup> Tfh cells (B), and Tfr cells and PD-1<sup>+</sup> Tfr cells (C) in blood from patients with RRMS, PPMS, symptomatic controls (SC) and healthy controls (HC). The mean value is shown for all groups analyzed. \*\*\*  $p < 0.0001$ ; \*\*  $p < 0.005$ ; \*  $p < 0.05$ .

### **Supplementary figure 3. Tfh and Tfr cells in the CSF and blood from healthy controls**

(A-C) The prevalence of CD25<sup>-</sup> Tfh cells and PD-1<sup>+</sup> CD25<sup>-</sup> Tfh cells (A), CD25<sup>int</sup> Tfh cells and PD-1<sup>+</sup> CD25<sup>int</sup> Tfh cells (B), and Tfr cells and PD-1<sup>+</sup> Tfr cells (C) in blood and CSF from healthy controls. The mean value is shown for all groups analyzed. \*\*\*  $p < 0.0001$ ; \*\*  $p < 0.005$ ; \*  $p < 0.05$ .

