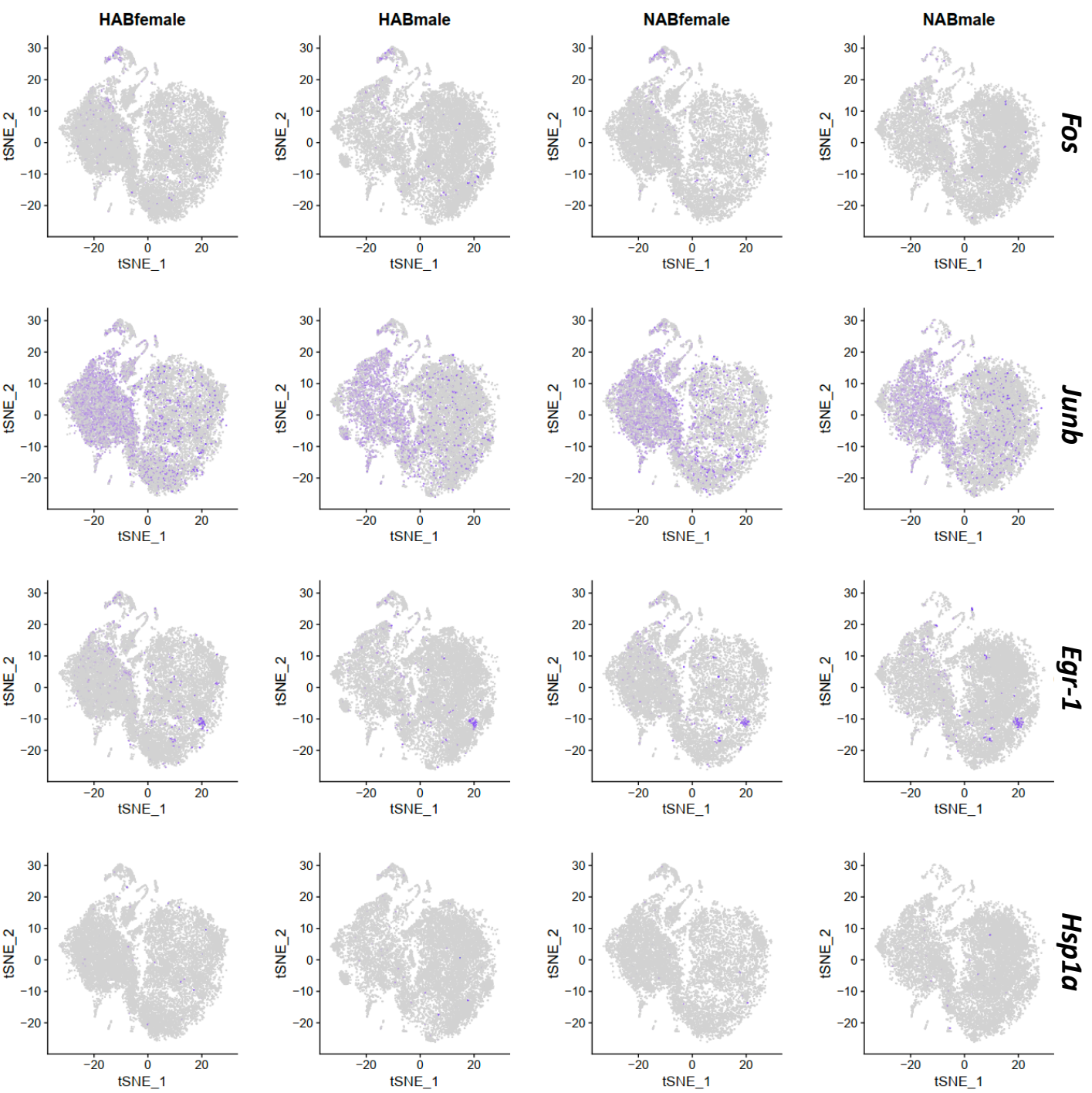
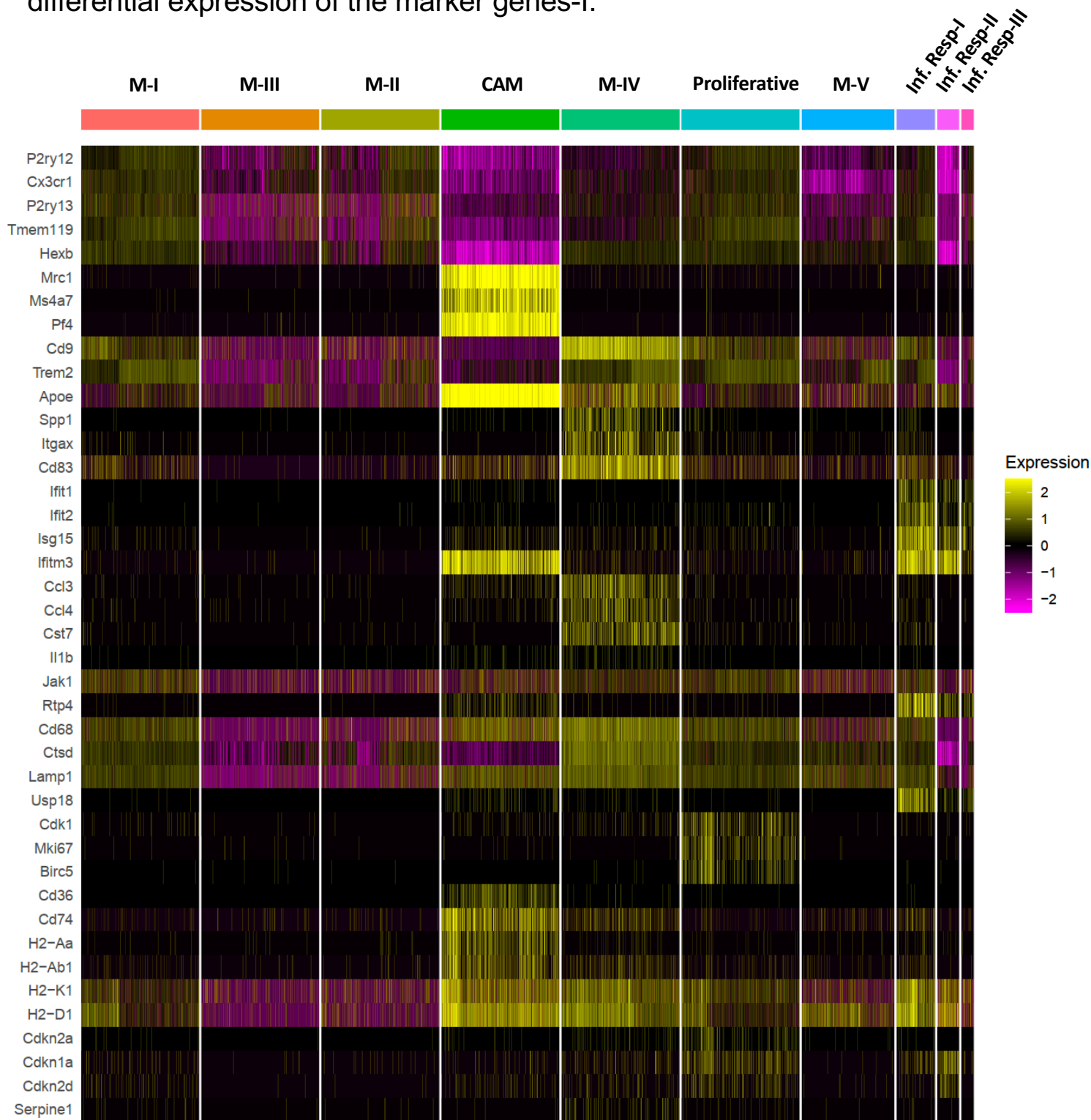


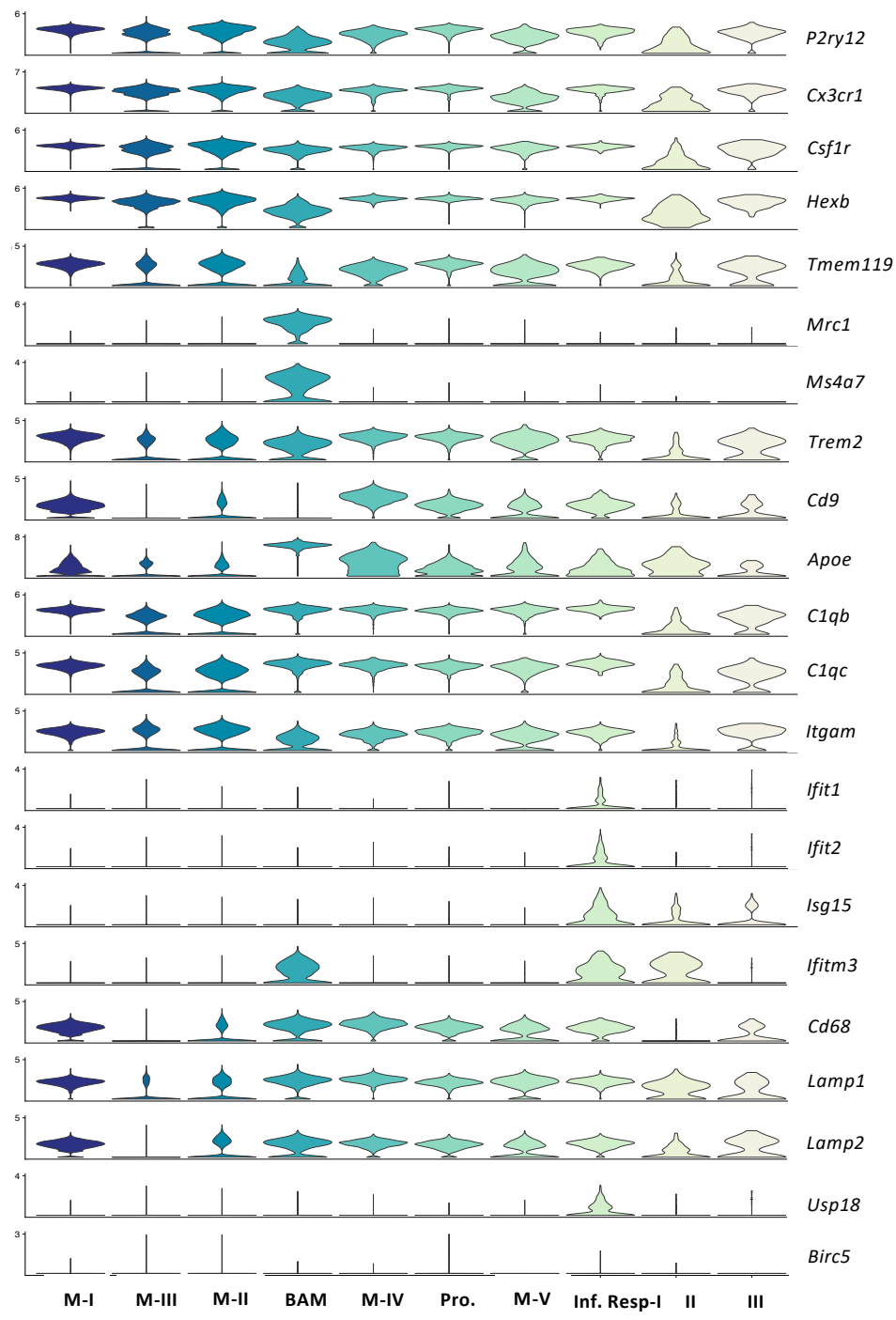
Supplementary Figure 1. Microglia isolated from HAB male and female brains do not show a major *ex vivo* activation signature due to the isolation procedure.



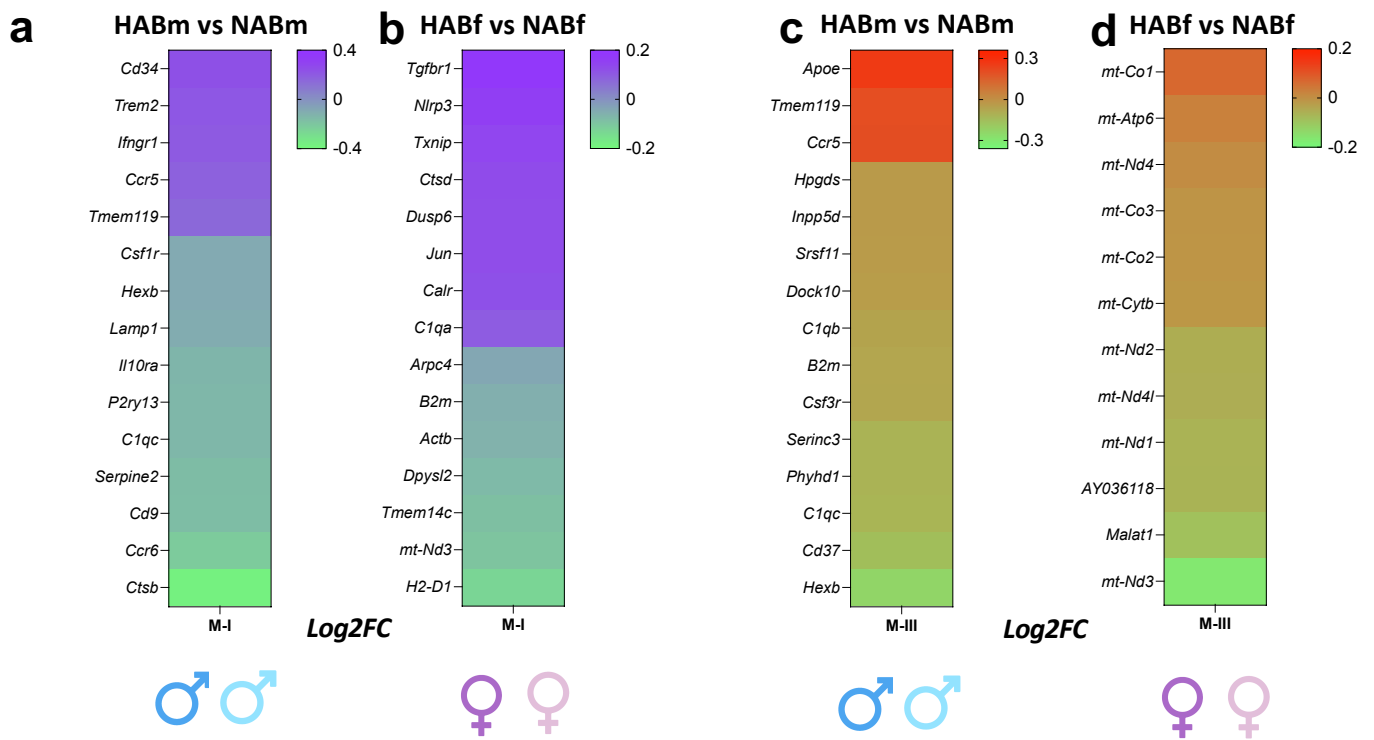
Supplementary Figure 2. Characterization of different microglia clusters based on differential expression of the marker genes-I.



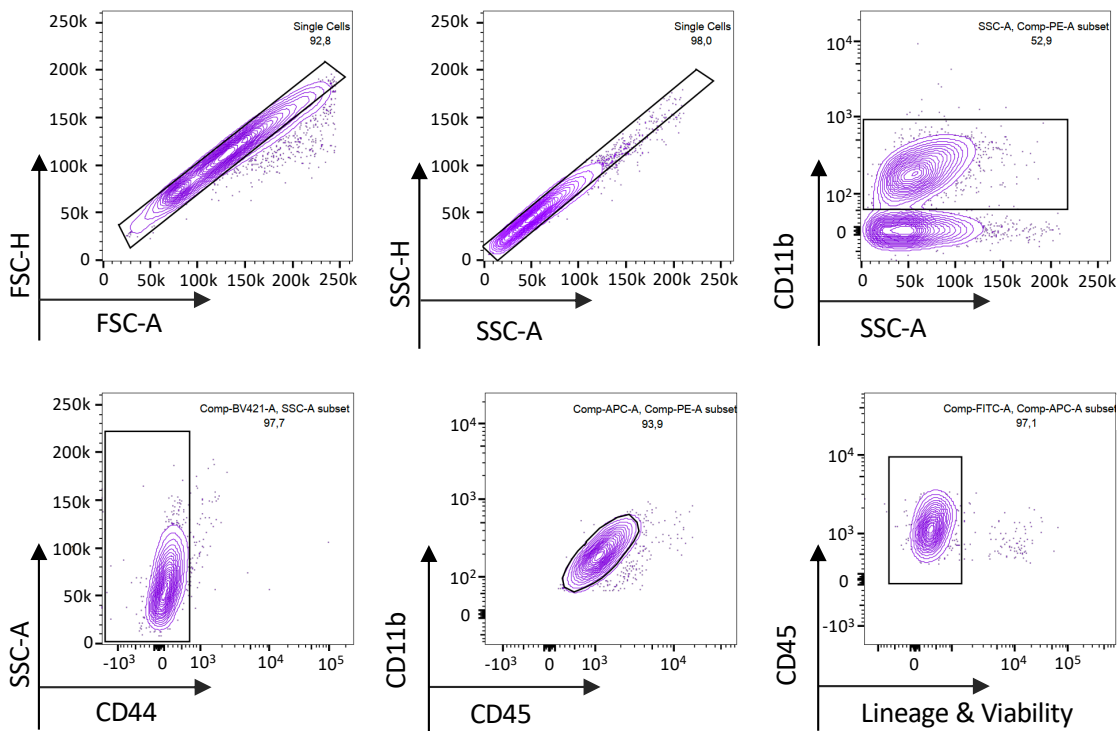
Supplementary Figure 3. Characterization of different microglia clusters based on differential expression of the marker genes-II.



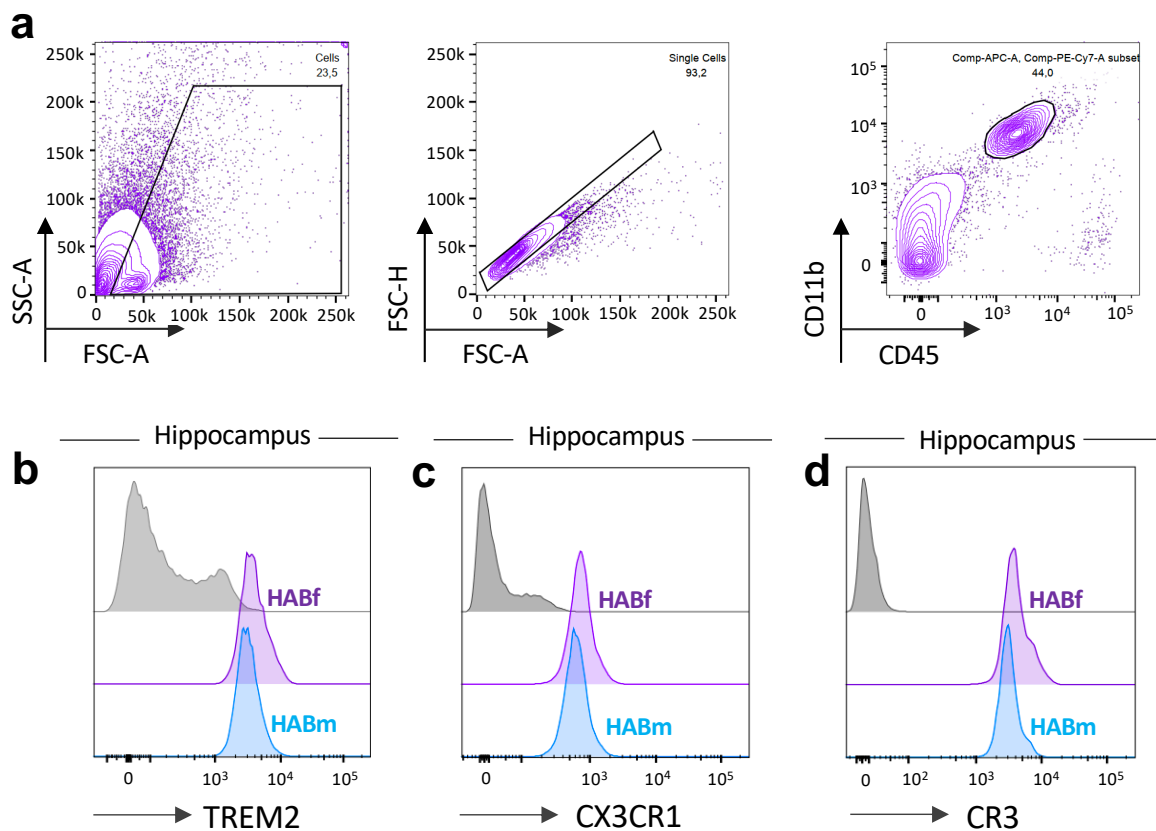
Supplementary Figure 4. Comparison of HAB and NAB with matching sexes in the MI and MIII clusters, respectively.



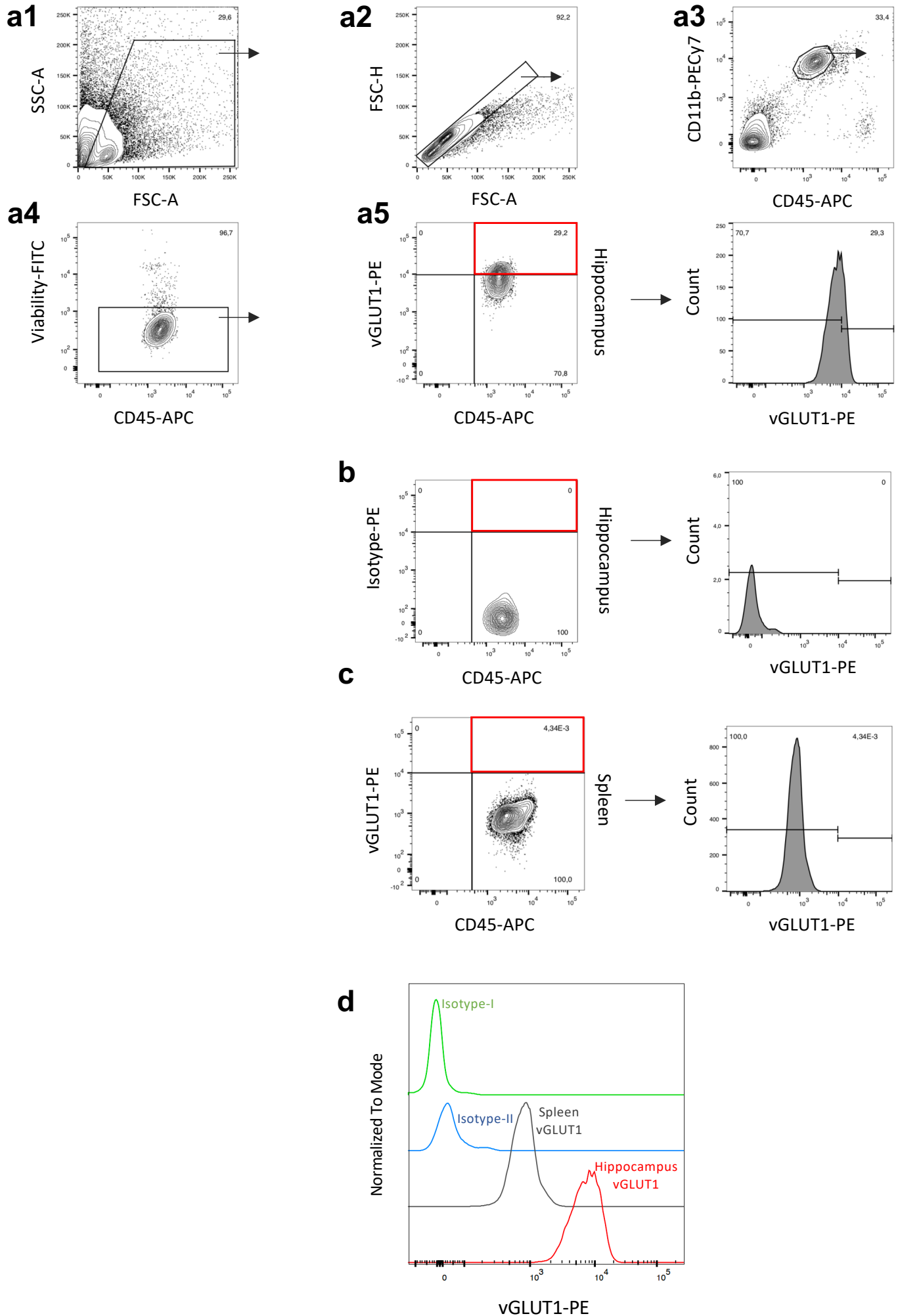
Supplementary Figure 5. Gating strategy to define and sort microglia prior to single-cell RNA sequencing



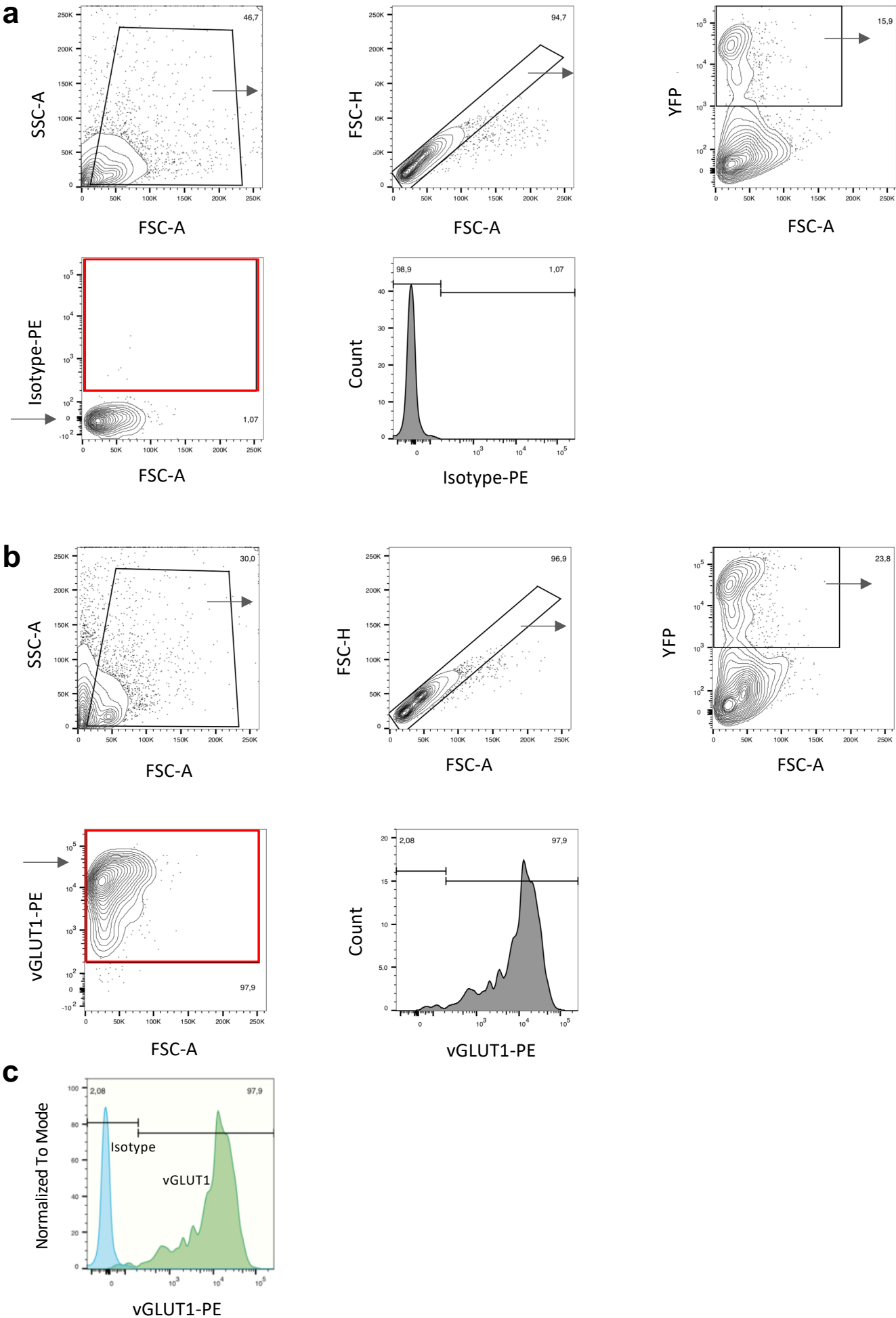
Supplementary Figure 6. Gating strategies to define microglia and to analyze microglia-specific MFI of different targets using flow cytometry.



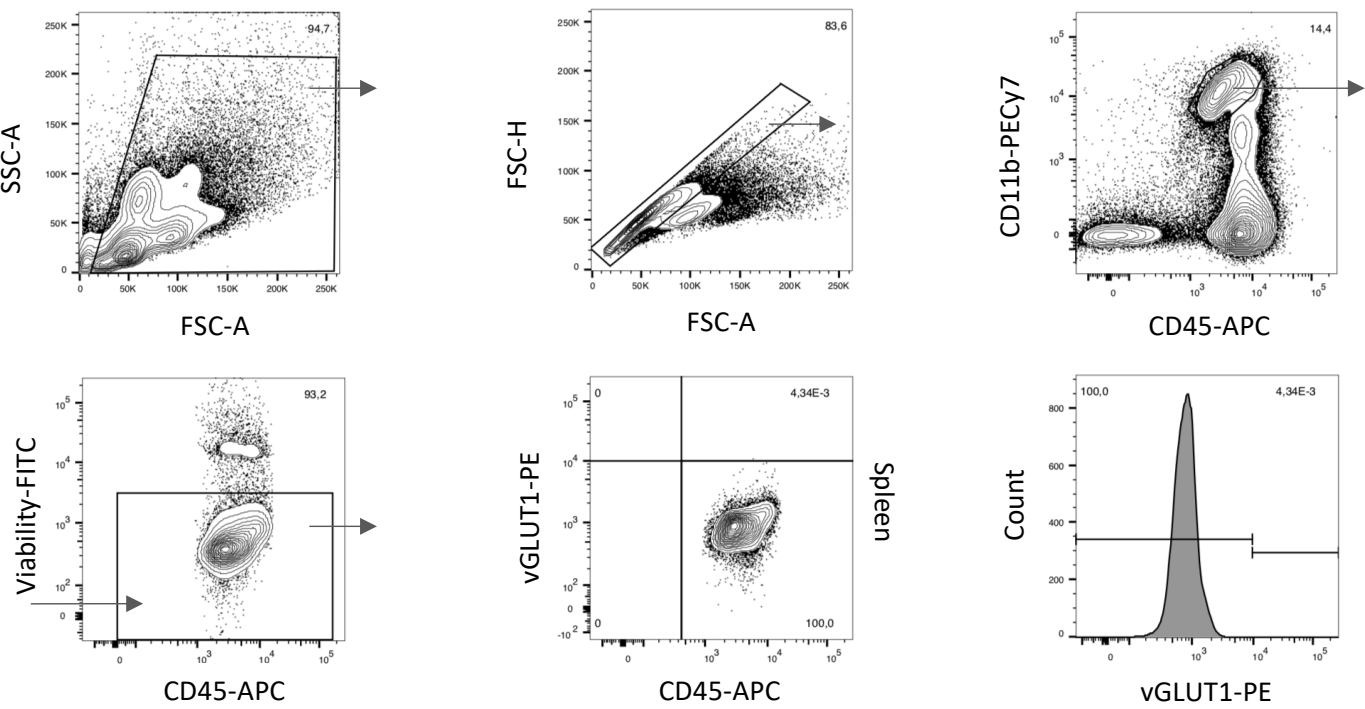
Supplementary Figure 7. Representative FACS plots indicating the gating strategy to define microglia as CD11b⁺/ CD45⁺ Viable population to analyze vGLUT1-MFI.



Supplementary Figure 8. Representative FACS plots demonstrating the gating strategy to test the specificity and efficiency of the vGLUT1 antibody. YFP⁺ glutamatergic neurons were used to test immunoreactivity of the vGLUT1 antibody.

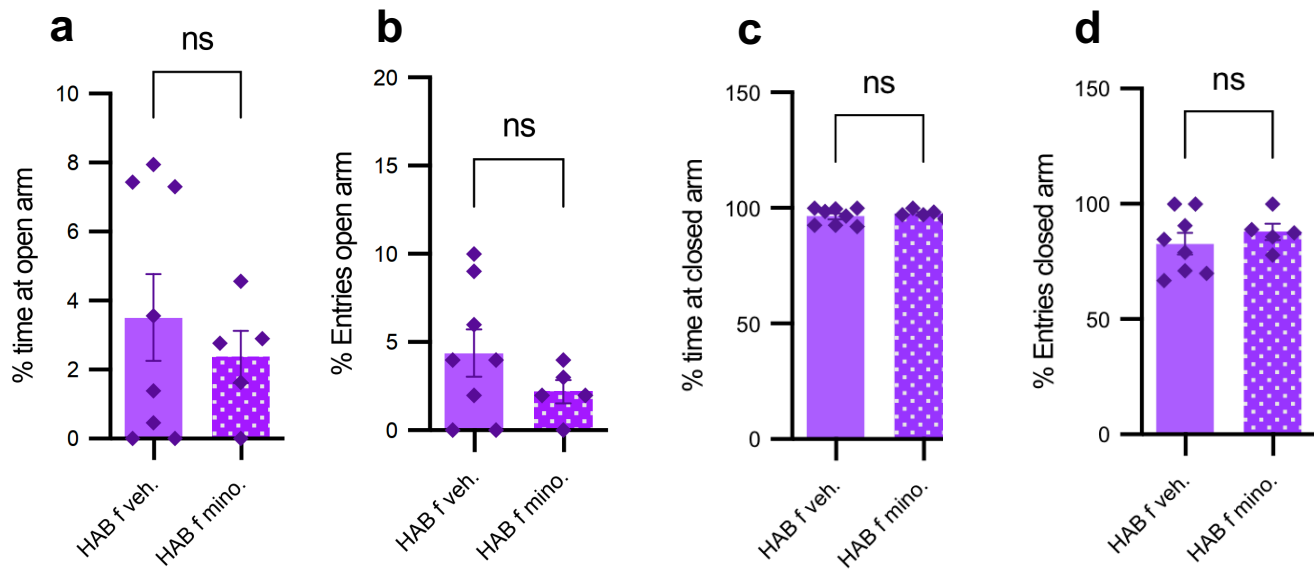


Supplementary Figure 9. Representative FACS plots demonstrating the gating strategy to define spleen macrophages as a biological negative control.



Supplementary Figure 10. Mice split in two groups as vehicle and minocycline treatment did not show a significant difference in their anxiety-related behavior prior to the minocycline treatment.

♀ Elevated Plus Maze (before the minocycline treatment)



Supplementary Figure 11. No significant difference detected in the locomotor activity between the treated and untreated HAB female mice after the 4 weeks of systemic minocycline treatment.

♀ Open Field (after the minocycline treatment)

