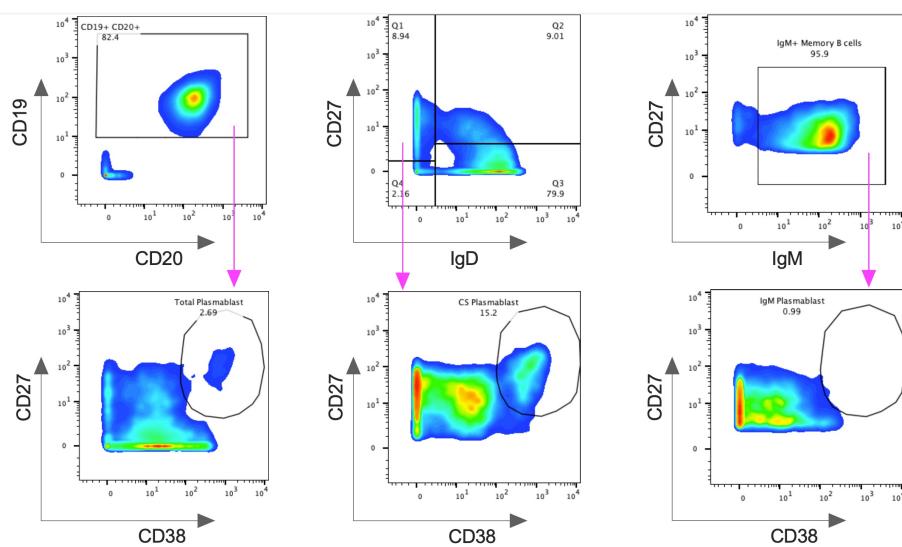


# Supplementary Figure S1: CyTOF gating strategy.

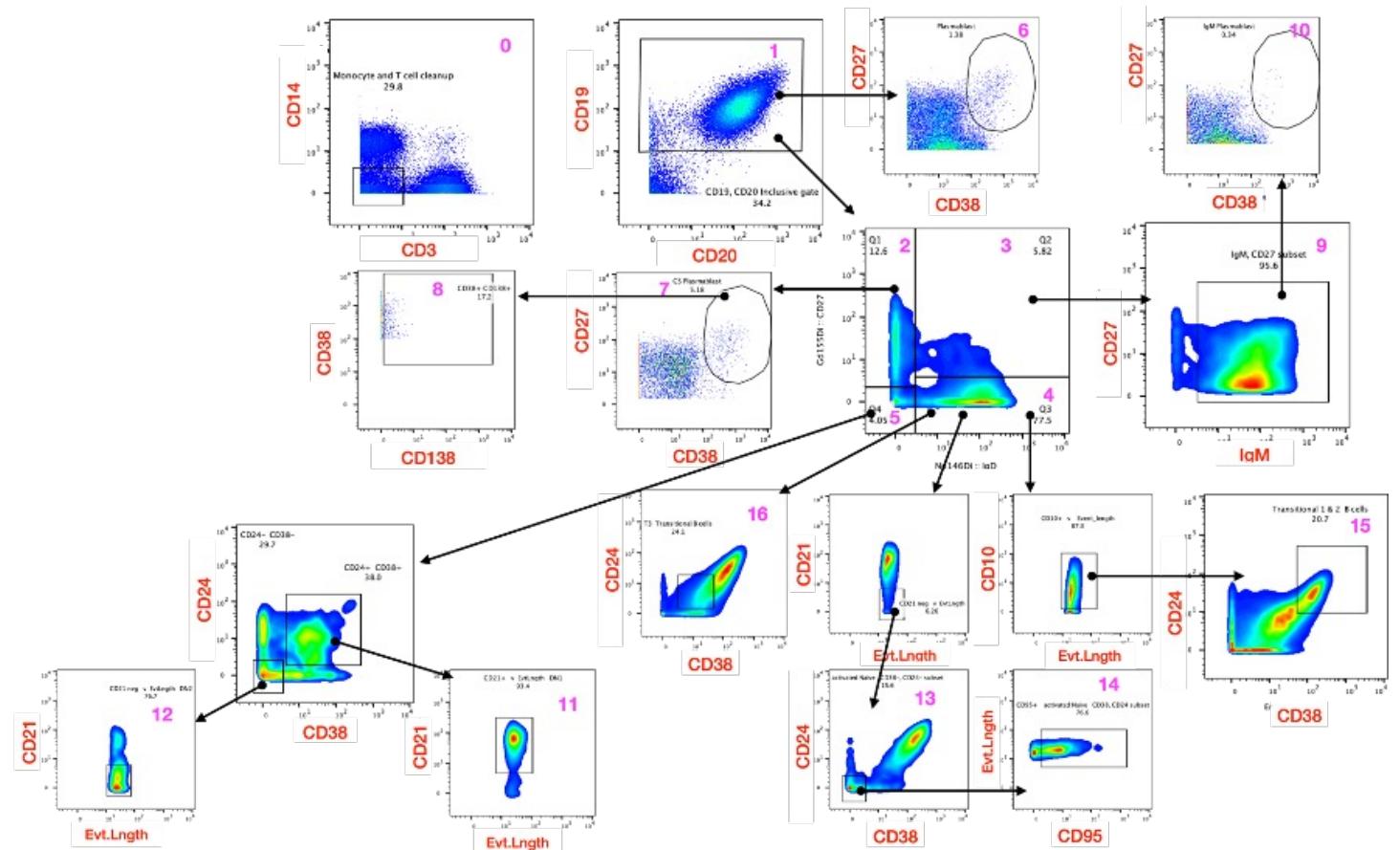
**Panel A.** Cytof manual gates that outline B cell subsets in Panels D-G

**A**



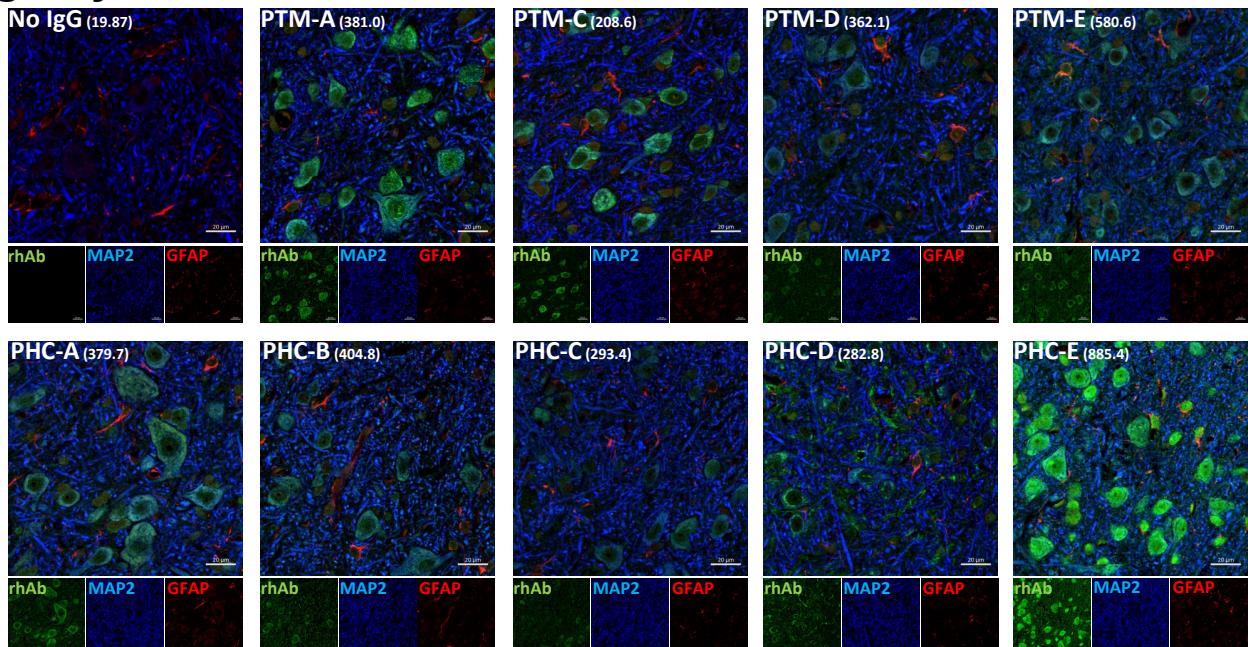
**Panel B.** CYTOF manual gates that outline B cell subsets in Panels H|I

**B**

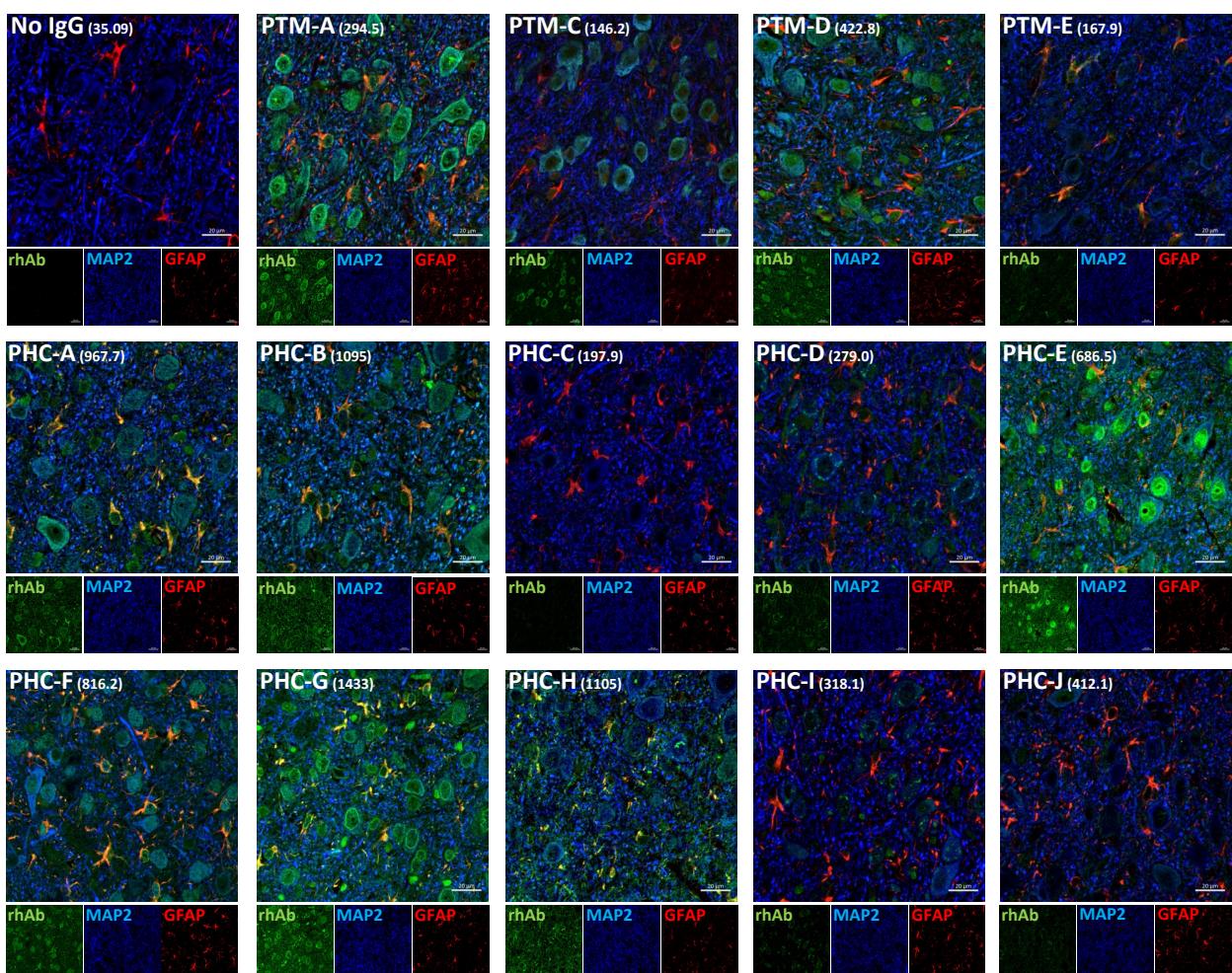


## Supplementary Figure S2 – Wild-type and EAE mouse spinal cord reactivity of serum IgG by immunofluorescence.

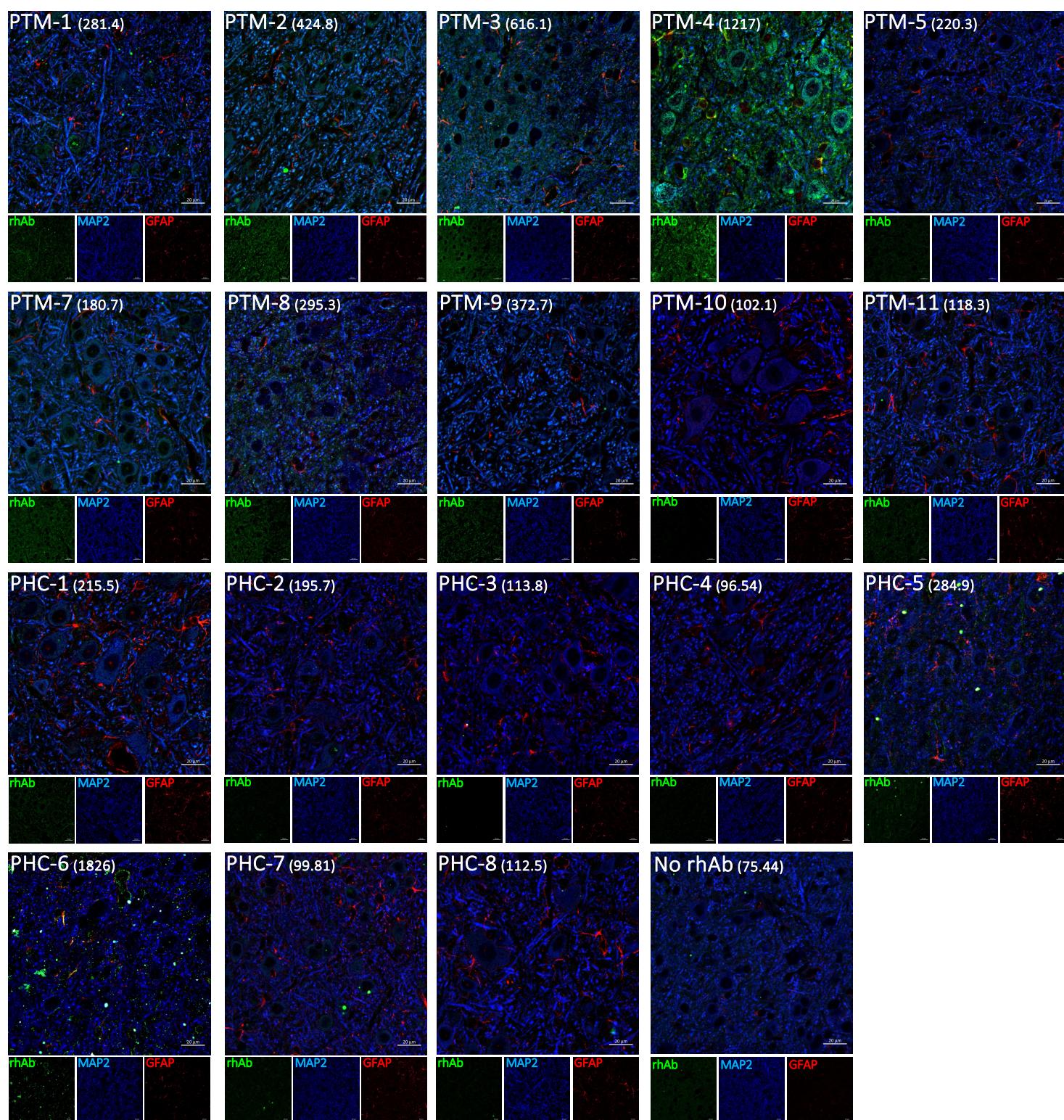
WT Spine Tissue



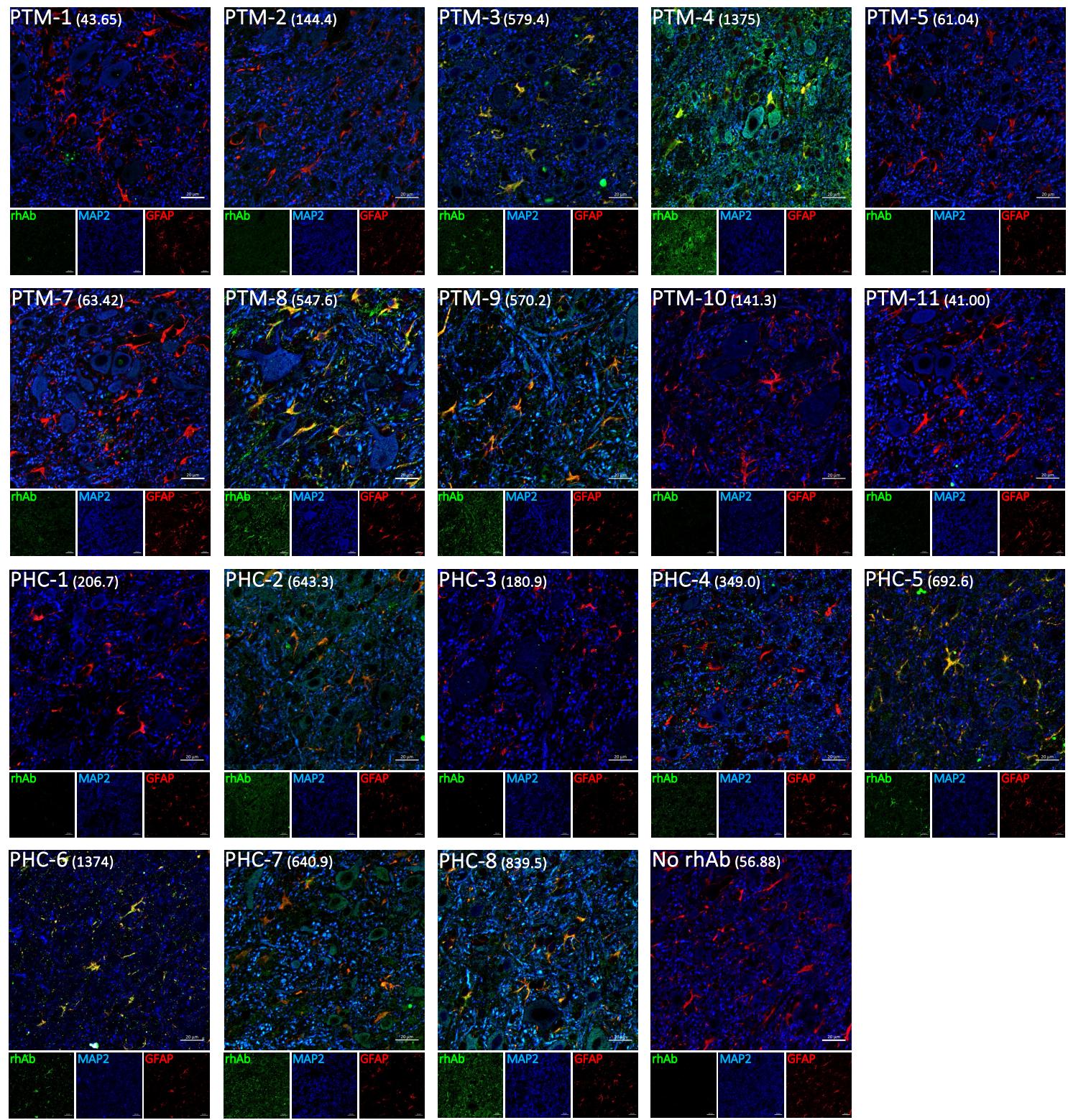
EAE Spine Tissue



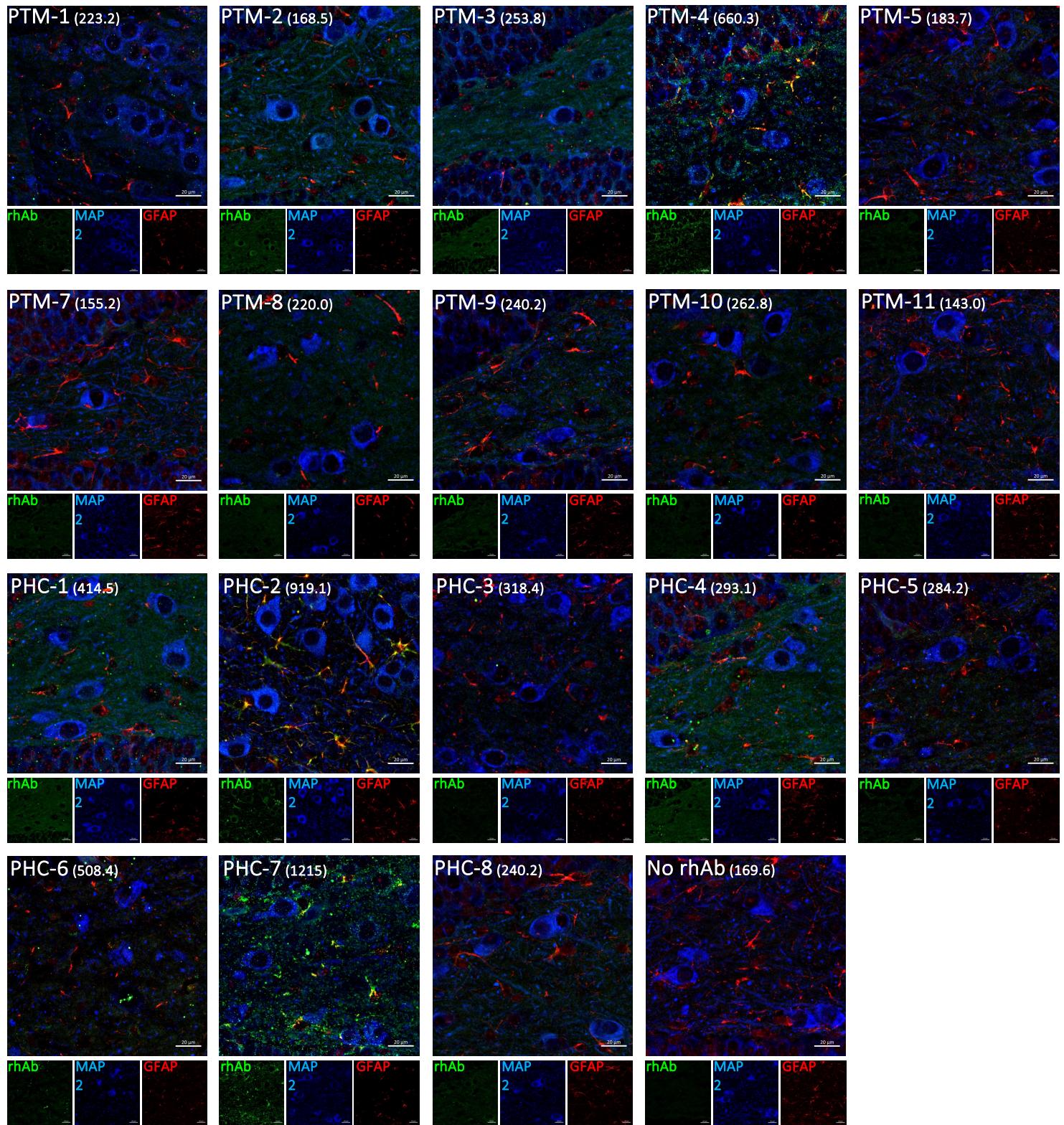
# Supplementary Figure S3: Wild-type mouse spinal cord reactivity of rhAbs by immunofluorescence.



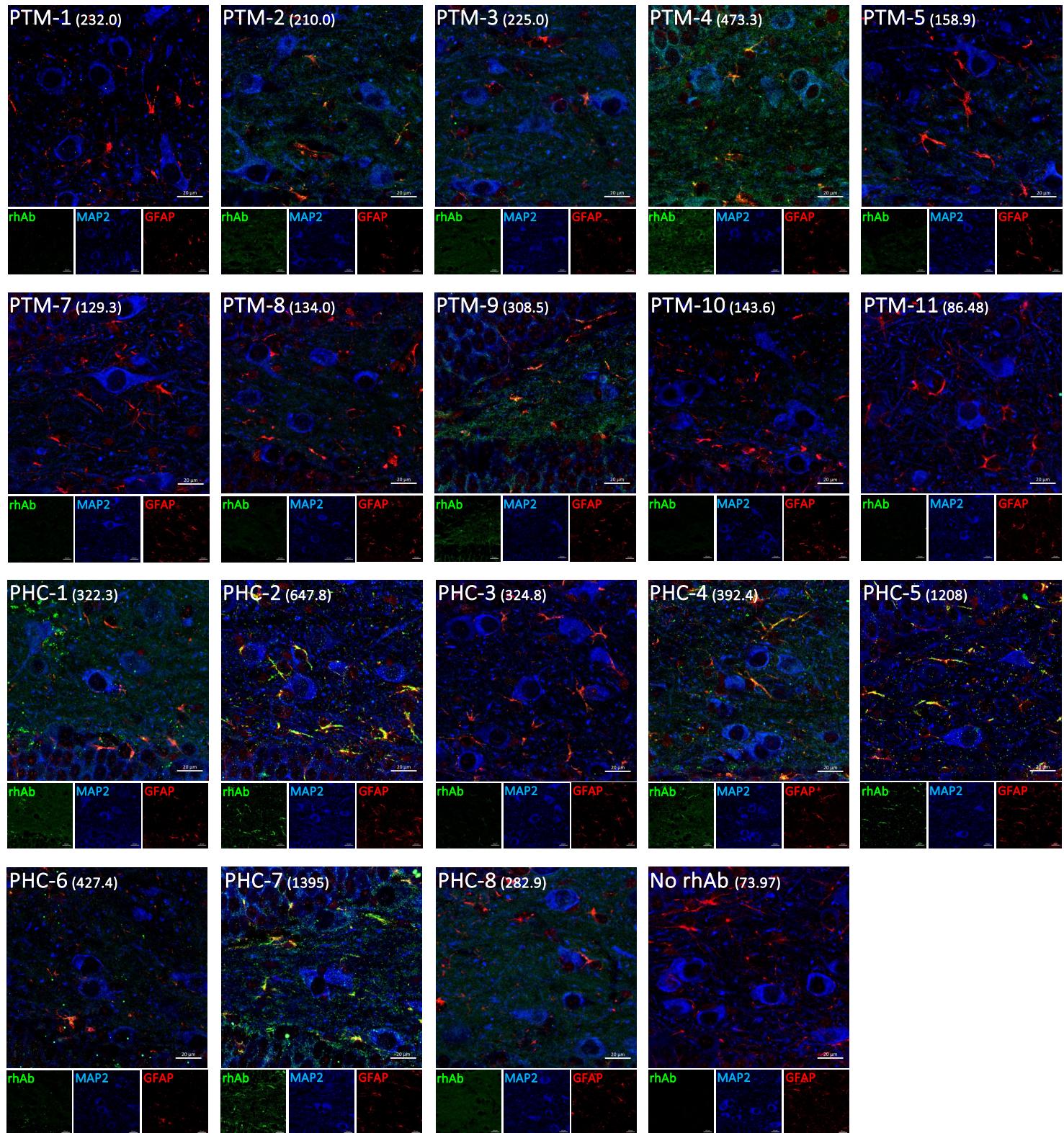
# Supplemental Figure S4: EAE mouse spinal cord reactivity of rhAbs by immunofluorescence.



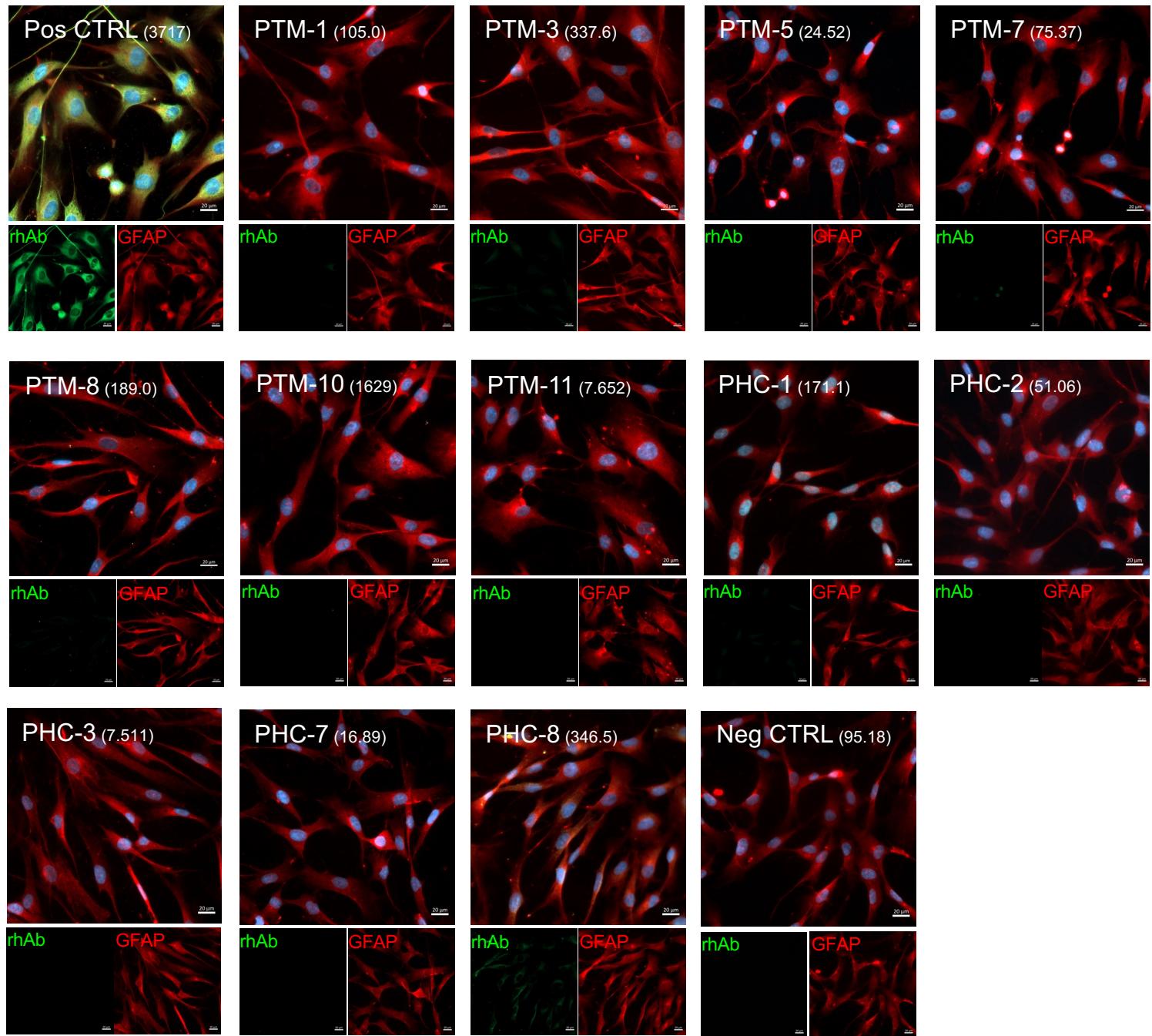
# Supplemental Figure S5: Wild-type mouse brain reactivity of rhAbs by immunofluorescence.



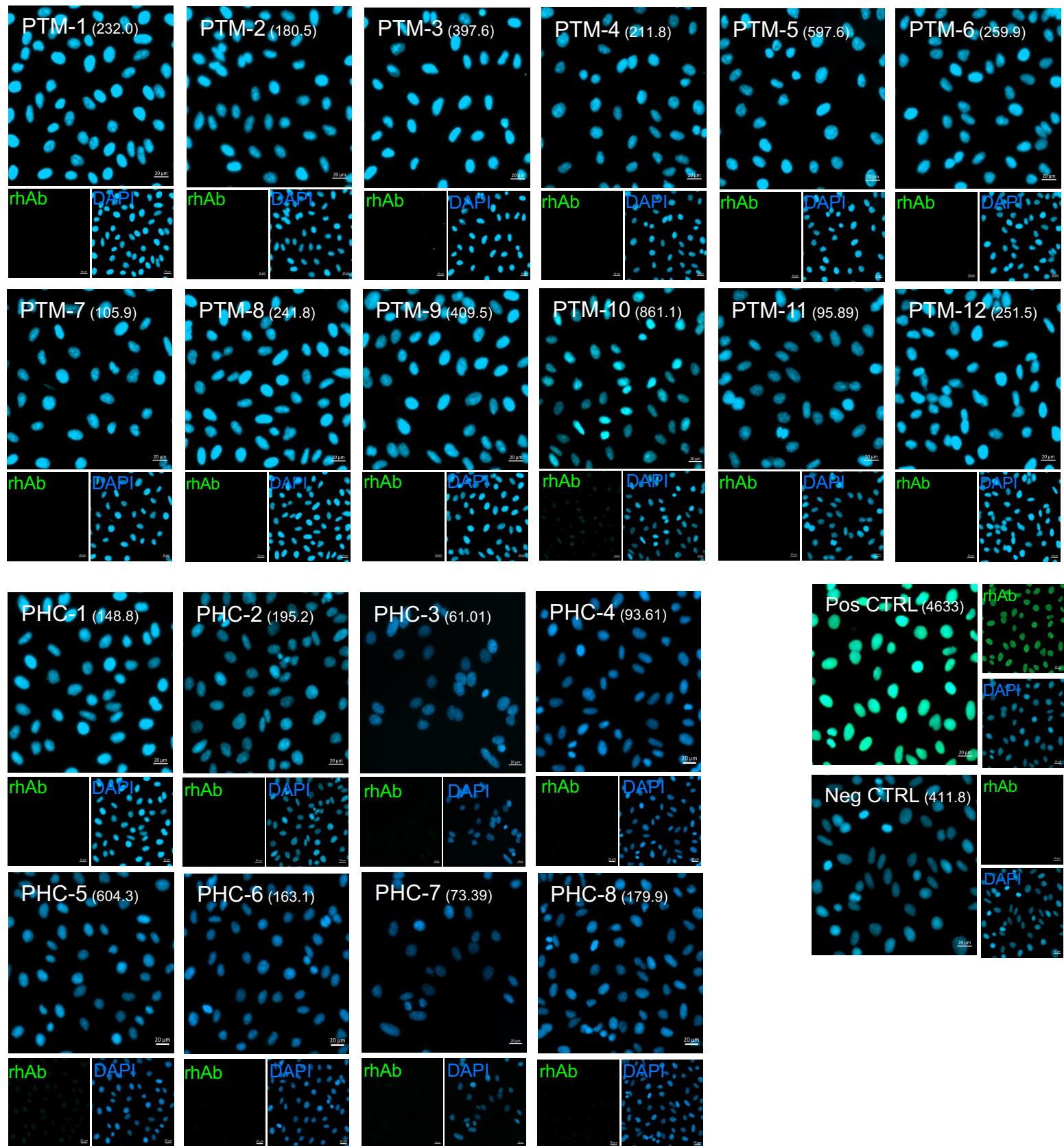
# Supplemental Figure S6: EAE mouse brain reactivity of rhAbs by immunofluorescence



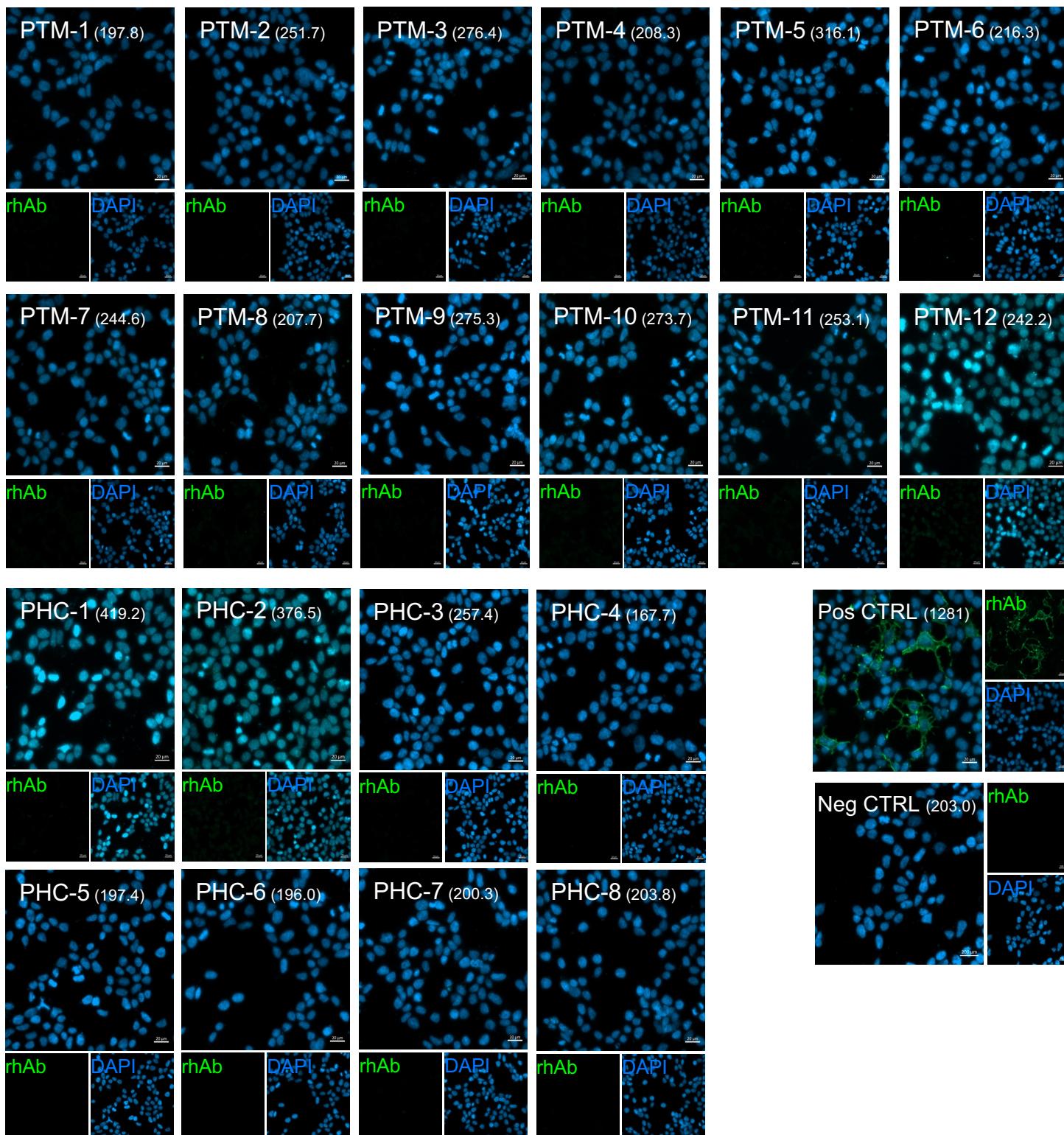
## Supplemental Figure S7: Primary human astrocyte reactivity of rhAbs by ICC



## Supplemental Figure S8: Hep2 reactivity of rhAbs by cell-based assay.

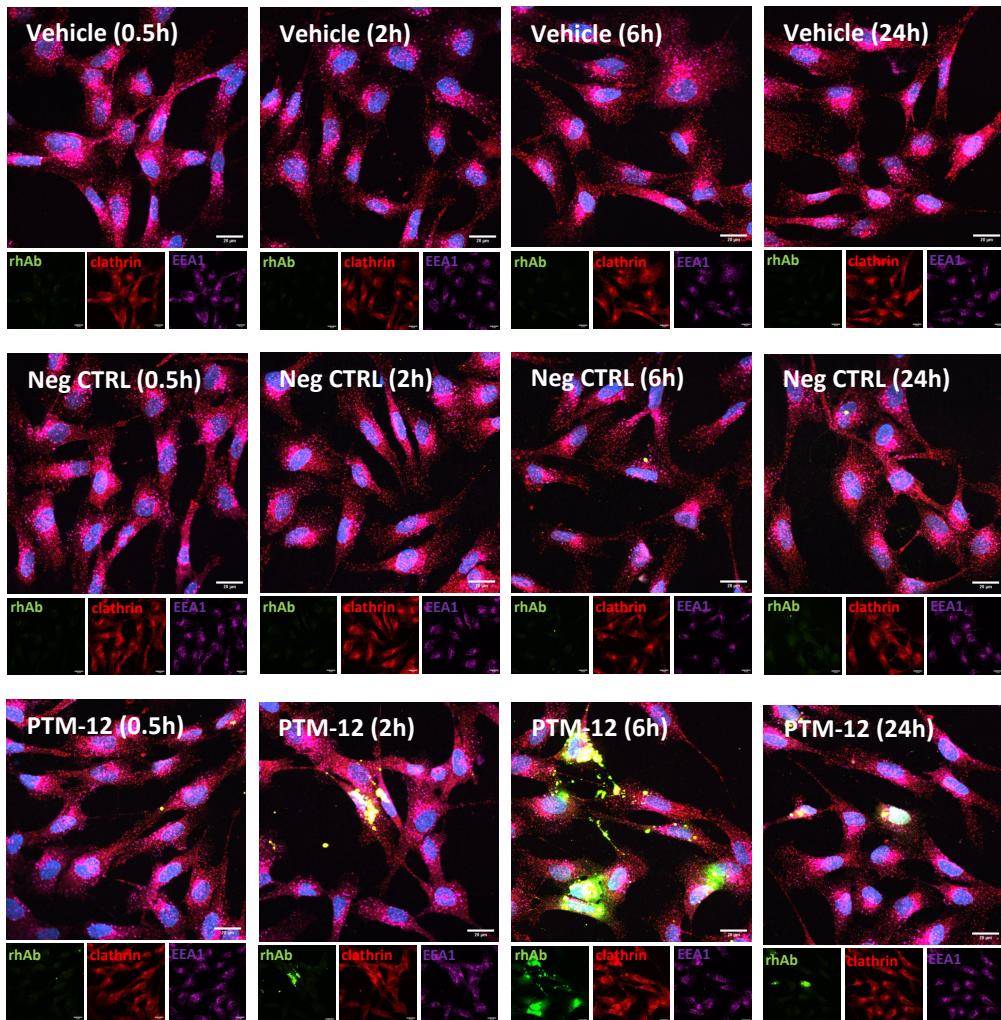


# Supplemental Figure S9: Reactivity of rhAbs to HEK293 cells expressing AQP4.



# Supplementary Figure S10: rhAbs are internalized to live primary human astrocytes

**A**



**B**

