

FIGURE S1. Isolation of CNS protein-reactive CD8 T cells from C57BL/6 mice. **(A)** Schematic of immunization protocol. C57BL/6 mice were infected with rAd expressing different CNS antigens. **(B)** CD8 T cells isolated from C57BL/6 mice infected with rAd-GFAP produce IFN γ in response to GFAP₂₆₄₋₂₇₂ peptide and **(C)** are specifically stained with H2-D^b:GFAP₂₆₄₋₂₇₂ tetramer following five days of in vitro culture. **(D)** GFAP₂₆₄₋₂₇₂-reactive CD8 T cells are further expanded following 12 days in vitro culture. **(E)** CD8 T cells isolated from C57BL/6 mice infected with rAd-MOG produce IFN γ in response to MOG₈₁₋₈₈ peptide and **(F)** are specifically stained with H2-K^b:MOG₈₁₋₈₈ tetramer following five days of in vitro culture. **(D)** MOG₈₁₋₈₈-reactive CD8 T cells are further expanded following 12 days in vitro culture. Shown are representative examples from at least five individual mice.

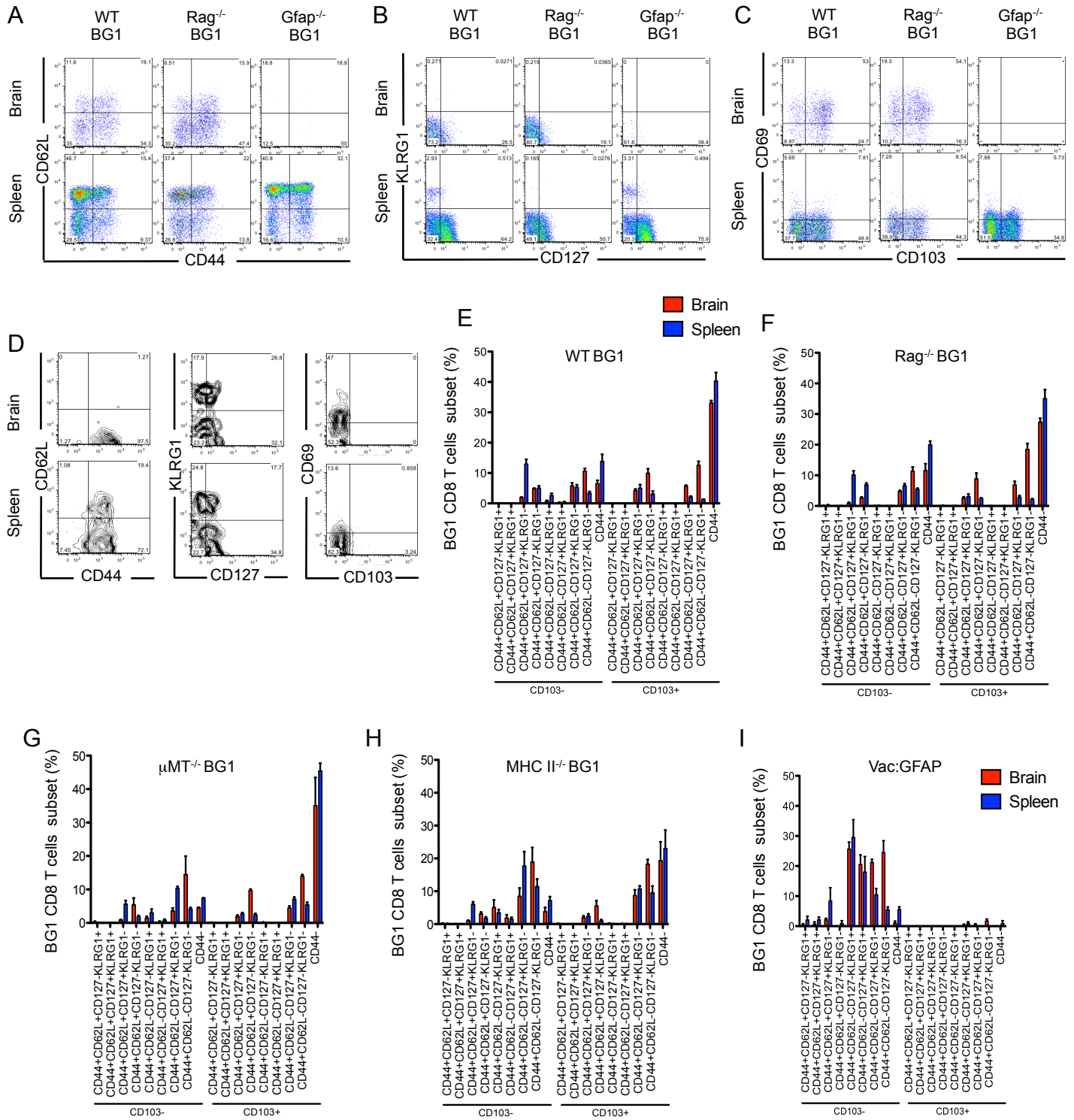


Figure S2. Identification of BG1 CD8 T cell subsets in the brain of BG1 mice and mice infected with Vac:GFAP. Brain and spleen tissue was isolated and analyzed by flow cytometry. Data are from six individual mice and shown as dot plots and bar graphs in **A-C**, **E-H** for spontaneous diseased mice, in **D** and **I** for Vac:GFAP-infected mice. Error bars represent SEM.

Supplemental Videos

Video S1. BG1 mouse with spontaneous grade 9 atypical CNS disease symptoms.

Video S2. BG1 mouse with Vac-GFAP induced grade 8 atypical EAE disease symptoms.