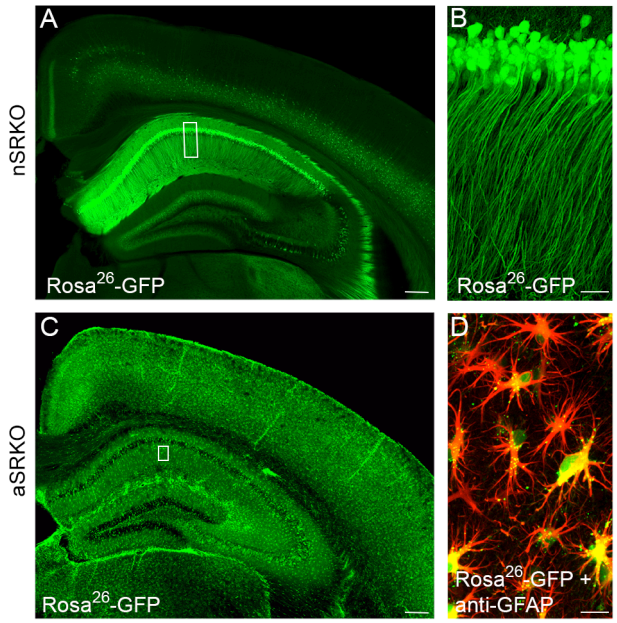
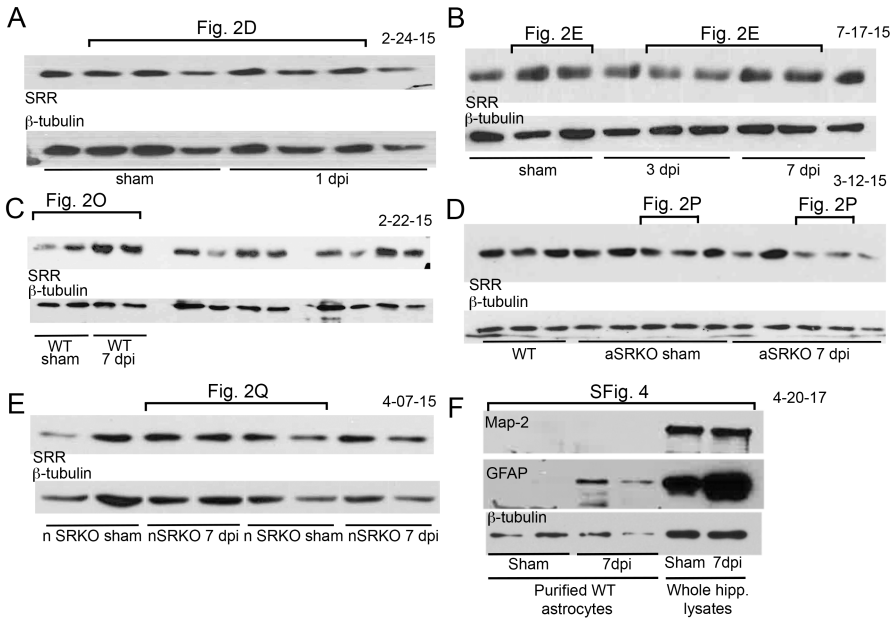
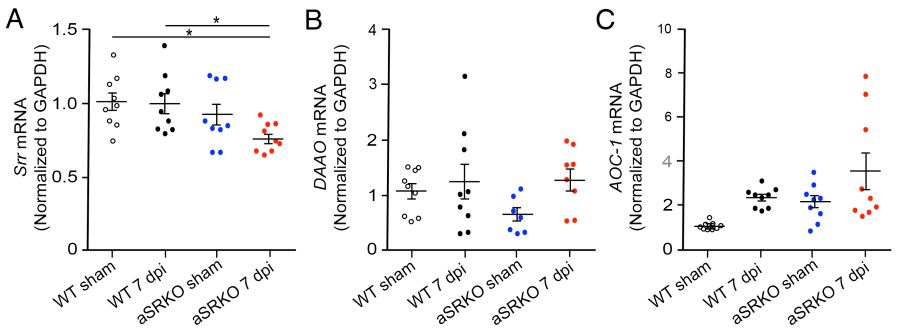


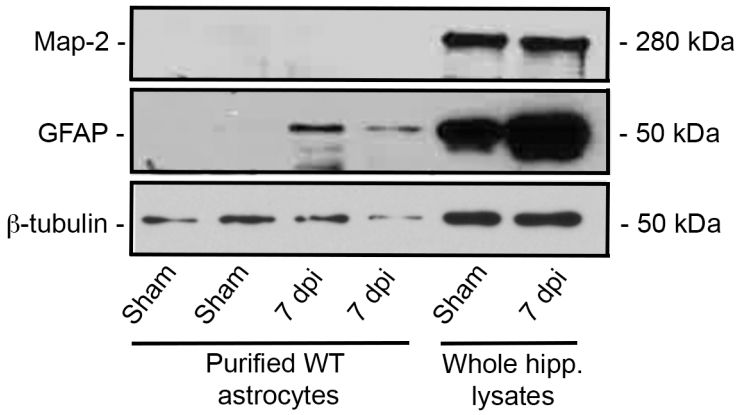
Supplemental Figure 1. Serine racemase knockout mice (SRKO) with either thy-1-cre-Ert2 mice (nSRKO) or human glial fibrillary acidic protein (GFAP)-cre-Ert2 mice (aSRKO) and Rosa26-green fluorescent protein (GFP) reporter gene showed robust GFP expression in hippocampal neurons or astrocytes, respectively. Low-magnification image of the hippocampus (A) and high-magnification of CA1 region (B) show neuron specific expression in nSRKO mice. Low-magnification image of the hippocampus (C) and high-magnification of CA1 molecular layer (D) show astrocyte specific expression in aSRKO mice. Scale bars represent 100 μm for panels A & C, and 25 μm for panels B & D.



Supplemental Figure 2. Original unedited Western blots used for representative images in figure 2. (A) Serine racemase (SR) expression in WT sham and 1 day post-CCI injury (dpi) tissues in figure 2D. (B) SR expression in WT sham, 3 dpi and 7 dpi tissues in figure 2h. Sham and 7 dpi in WT mice in figure 2O (C), in aSRKO mice in figure 2P (D) and in nSRKO mice in figure 2Q (E). Map-2 and GFAP expression in sham and 7 dpi tissue from purified astrocytes and whole hippocampal (hipp.) tissues (F). All samples are compared with their respective β-tubulin loading controls. Arrows depict representative bands.



Supplemental Figure 3. Quantitative (q)RT-PCR analysis shows serine racemase (SR) mRNA reduced in aSRKO CCI injured mice at 7 days post-CCI injury (dpi) as compared to sham and WT CCI injured mice. (A) Reduced levels of SR mRNA in aSRKO at 7 dpi as compared to sham and WT CCI injured mice. (B) No significant change in D-amino acid oxidase (DAO) levels in sham or CCI injured WT or aSRKO mice. (C) No significant change in amine oxidase, copper containing-1 (AOC-1) levels in sham or CCI injured WT or aSRKO mice. n = 3/group in triplicate. One-way ANOVA; * $p<0.05$.



Supplemental Figure 4. Western blot analysis of GLAST(+) purified astrocytes show expression of astrocyte but not neuronal markers. Sham and 7 days post-CCI injury (dpi) hippocampal GLAST(+) astrocyte lysates show anti-GFAP but not anti-Map-2 expression as compared to whole hippocampus lysates. All samples are compared with their respective β-tubulin loading controls.