

# Supporting Information

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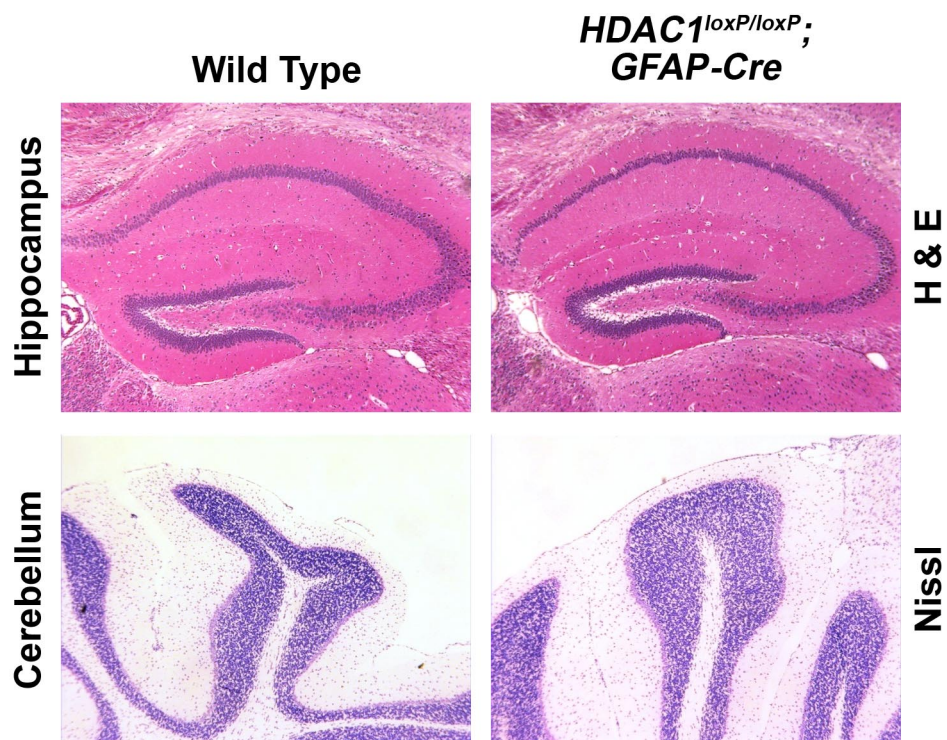
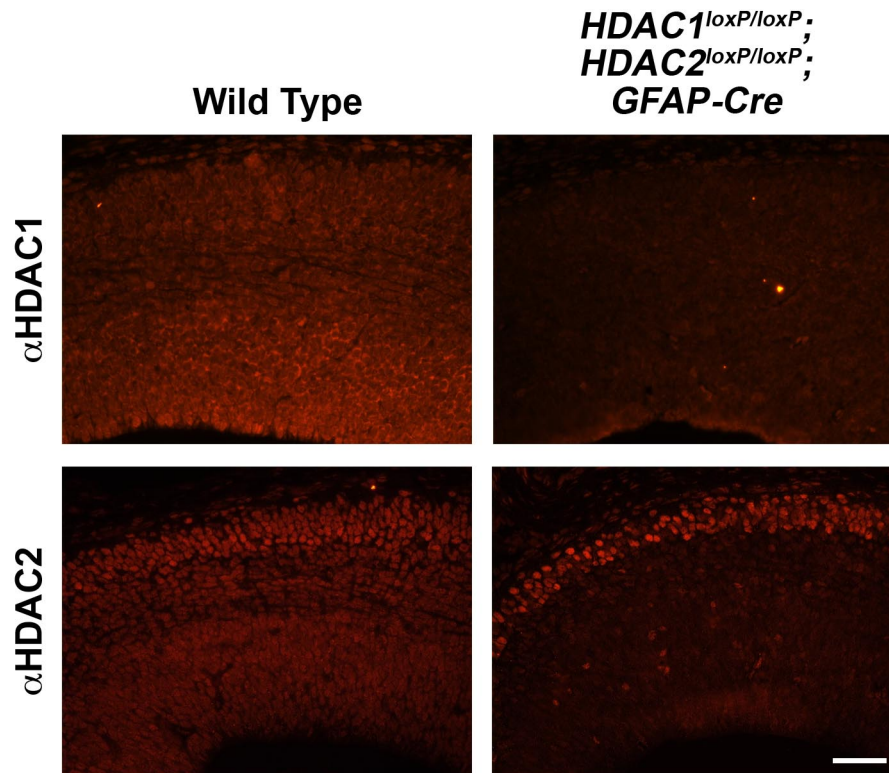
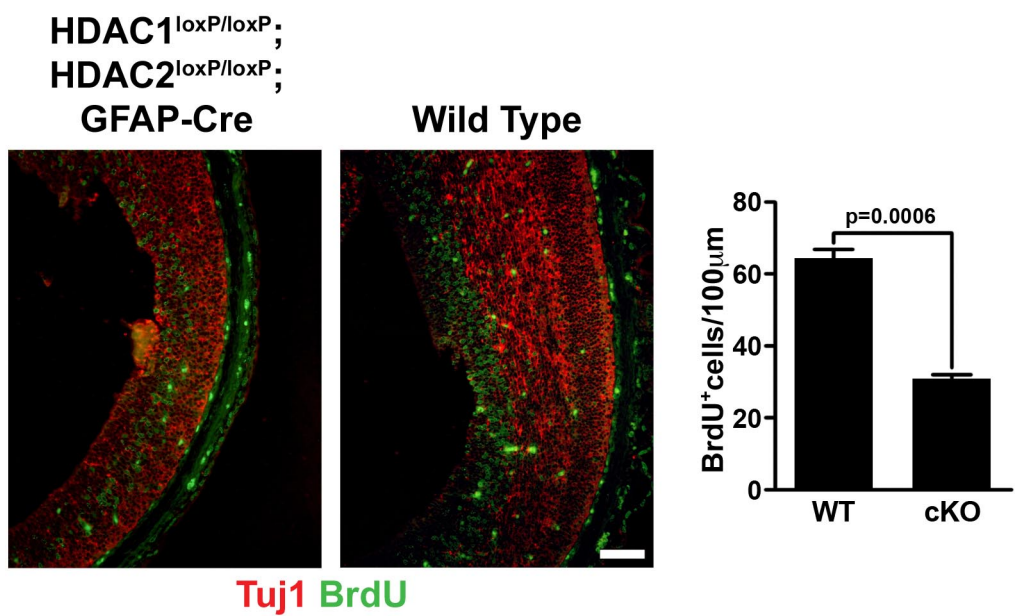


Fig. S1. Hematoxylin and eosin staining of hippocampus (Upper) and Nissl staining of cerebellum (Lower) from wild-type, *HDAC1<sup>loxP/loxP</sup>;GFAP-Cre* mice showing normal hippocampal and cerebellar development in HDAC1 mutant mice.



**Fig. S2.** Immunohistochemistry for HDAC1 (*Upper*) or HDAC2 (*Lower*) on the cortex of wild-type and  $HDAC1^{loxP/loxP}$ ,  $HDAC2^{loxP/loxP};GFAP-Cre$  mice to show deletion of HDAC1 and HDAC2 in the ventricular zone and cortical neurons. Staining of HDAC2 persists in the superficial cortical plate neurons. Scale bar, 40  $\mu$ m.



**Fig. S3.** Immunohistochemistry at E15.5 detecting S-phase neuronal precursors labeled by BrdU (green) and Tuj1 (red) on wild-type and mutant cerebrum cortex. Quantification of BrdU<sup>+</sup> cells at E15.5 to assess proliferation. cKO, double conditional knockout. Scale bar, 40 μm.