

**Supplemental Figure 1.** Philanthotoxin antagonizes synaptic NMDARs, GluR2-lacking receptors on outside out patches from GluR2<sup>-/-</sup> cells, and native GluR2-lacking receptors on cerebellar Bergmann Glial cells. **A**, Summary data for experiments in which 10  $\mu\text{M}$  Phtx was applied to synaptic NMDAR EPSCs in wt CA1 cells isolated by application of 0  $\text{Mg}^{2+}$  and the AMPAR antagonist CNQX. Right, example traces. **B**, Representative recording showing the effects of 1  $\mu\text{M}$  Phtx on the glutamate-evoked current in an outside-out patch from a CA1 cell in the R2<sup>-/-</sup> mouse. CTZ was co-applied to block desensitization. Right, example IV ramp of a R2<sup>-/-</sup> outside out patch in 10 mM glutamate, 100  $\mu\text{M}$  cyclothiazide. **C**, Summary data for experiments in which 10  $\mu\text{M}$  Phtx was applied to climbing fiber EPSCs in Bergmann glial cells. Right, example traces. Error bars represent s.e.m. **D**, Example traces from two cells (two pathways each) of AMPAR EPSCs recorded before (gray) and after (black) sampling the EPSC at +40 mV in the absence of APV. Sampling was 10 pulses at 0.2 Hz.