

Supplementary Materials

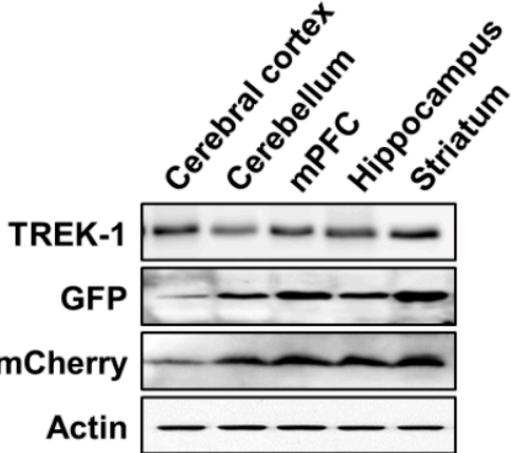


Figure S1. Regional expression of fluorescent protein in pSico-Red-shTREK-1 mice. (A) Western blot analysis from several brain tissues. Regional expression of TWIK-related potassium channel-1 (TREK-1), green fluorescent protein, and mCherry in pSico-Red-shTREK-1 mice.

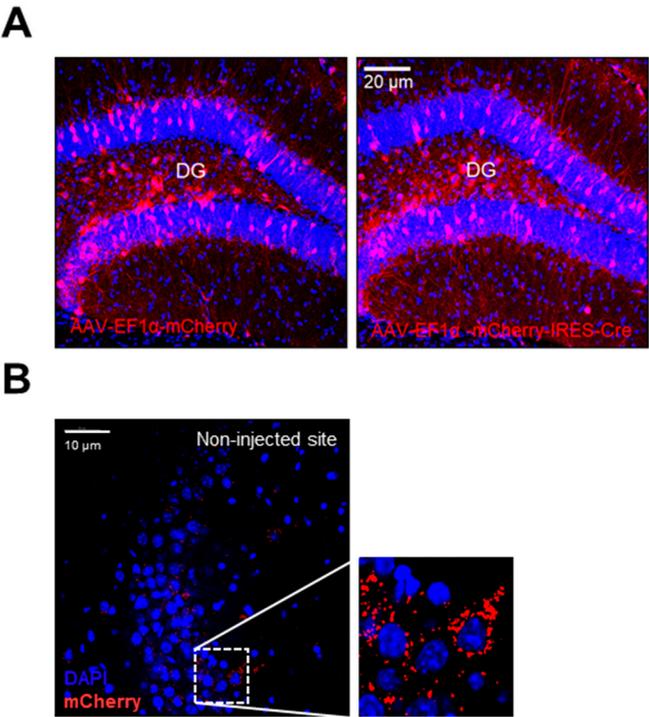


Figure S2. Confirmation of virus injection site by mCherry expression in pSico-Red-shTREK-1 mice. (A) Representative images showing the injection of adeno-associated virus (AAV)-elongation factor 1 alpha (EF1α)-mCherry or AAV-EF1α-mCherry-IRES-Cre in the dentate gyrus. (B) Non-injected site showed a low-intensity mCherry signal.

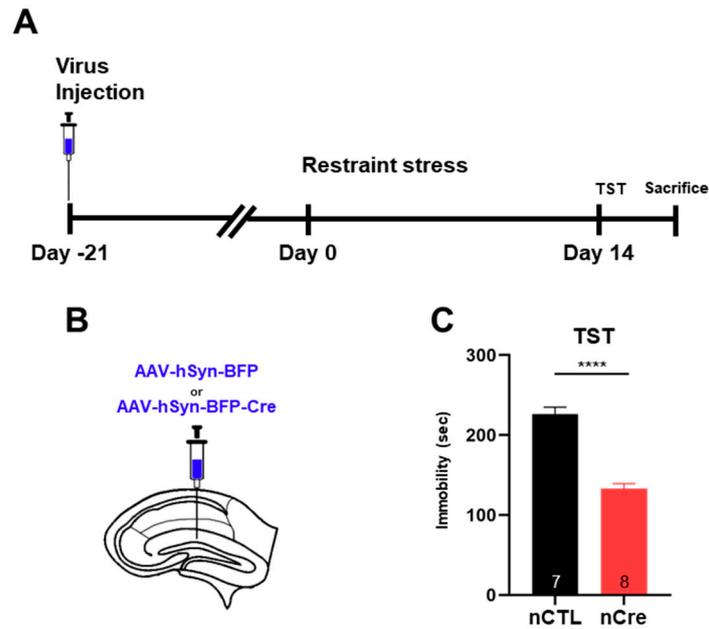


Figure S3. Tail suspension test (TST) in TWIK-related potassium channel-1 (TREK-1) conditional knockdown (cKD) mice after restraint stress. Experimental procedure for the restraint stress test schedule. Viruses were injected into the bilateral dentate gyrus, followed by a 21-day recovery (Day -21). Restraint stress was administered for 14 days. Fourteen days later, TST was conducted. (B) An illustration of a hippocampal slice of TREK-1 cKD mice to show the site of AAV-hSyn-BFP or AAV-hSyn-BFP-Cre injection. (C) Immobility time from the TST on mice after restraint stress. The numbers inside each bar indicate the number of samples. Data are presented as means \pm standard error of the mean (**** $p < 0.0001$).

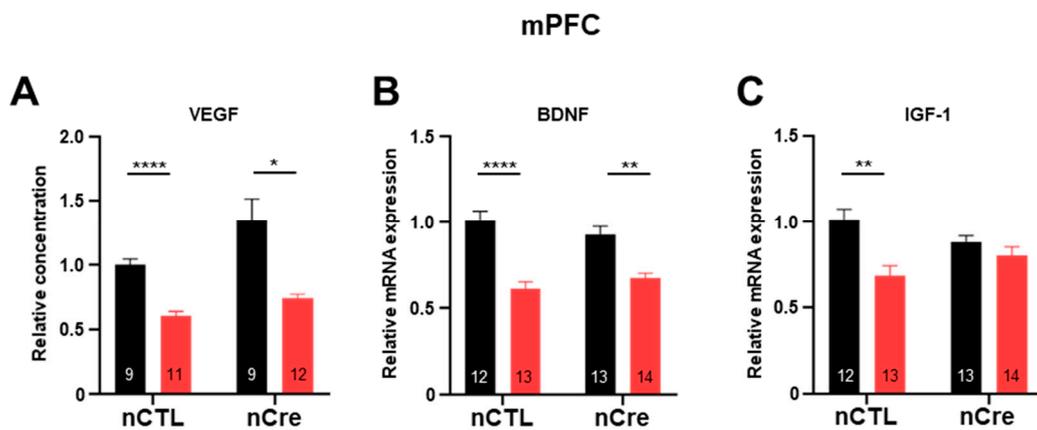


Figure S4. Quantitative real-time polymerase chain reaction analysis of neurotrophic factors in non-injected brain region (medial prefrontal cortex, mPFC). (A) Enzyme-linked immunosorbent assay for the vascular endothelial growth factor in mice (mPFC slice). Messenger ribonucleic acid levels of (B) brain-derived neurotrophic factor and (C) insulin growth factor-1. The numbers inside each bar indicate the number of samples. Data are presented as means \pm standard error of the mean (* $p < 0.05$, ** $p < 0.01$, **** $p < 0.0001$).