

Figure S1

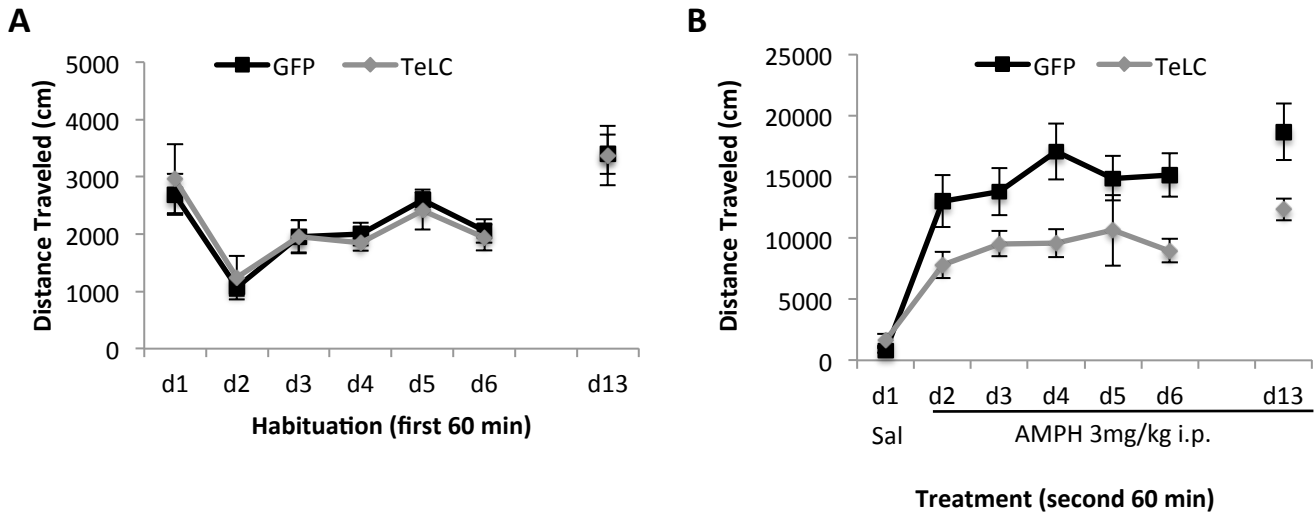


Figure S1: Silencing transmission from PV+ GABAergic interneurons of the NAc impairs behavioral sensitization to repeated AMPH administration in female mice. Mice were treated as in Fig. 2A. A) Cumulative distance traveled (cm) during the first 60 min of habituation to the open field. rmANOVA showed a significant main effect of days $F_{6,36}=17.39$ $p<0.001$, but no effect of virus $F_{1,6}=0.008$ $p=0.93$. B) Cumulative distance traveled (cm) each day during the 60 min following injection of either saline (Sal) or 3mg/kg AMPH (i.p.) in the open field. Comparing the response to saline with the response to the first AMPH treatment (d1 and d2), rmANOVA revealed a significant main effect of days $F_{6,36}=38.08$, $p<0.001$, however the effect of virus though qualitatively similar to the data in Fig. 2C did not achieve statistical significance ($F_{1,6}=4.22$, $p=0.08$). $n=4$ GFP and 4 TeLC female mice.

Figure S2

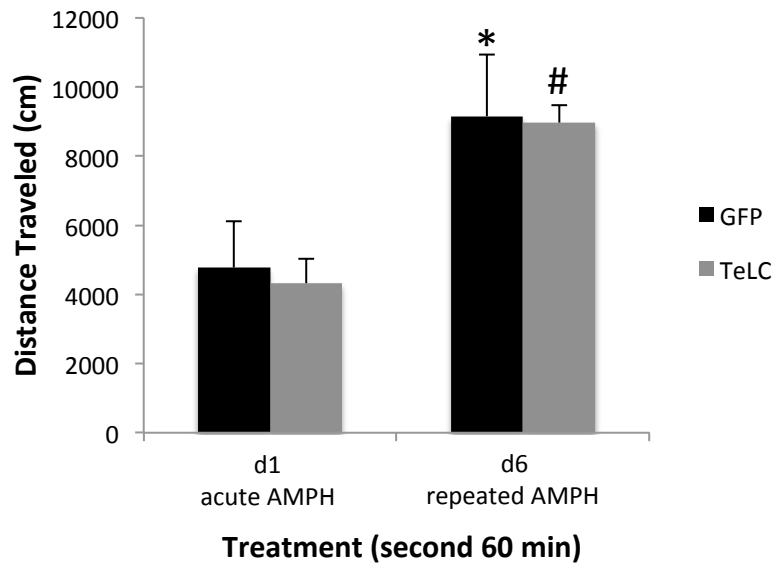


Figure S2: Cre-recombinase induced expression of TeLC is required to inhibit locomotor sensitization to AMPH. Male inbred C57BL6/J mice (which lack Cre recombinase expression) were injected in the NAc with either the GFP or TeLC viruses, then 3 week later mice were injected with 3 mg/kg AMPH (i.p.) over 6 consecutive days. rmANOVA showed that repeated AMPH induced sensitization over days in this cohort ($F_{1,7} = 21.56, p=0.002$). There was no significant effect of virus ($F_{1,7}=0.43, p=0.84$), and there was no virus by days interaction ($F_{1,7} = 0.19, p=0.89$). $n=4$ mice/virus; * $p<0.05$, d6 repeated AMPH vs. d1 acute AMPH for GFP; # $p<0.05$ d6 repeated AMPH vs. d1 acute AMPH for TeLC.

Figure S3

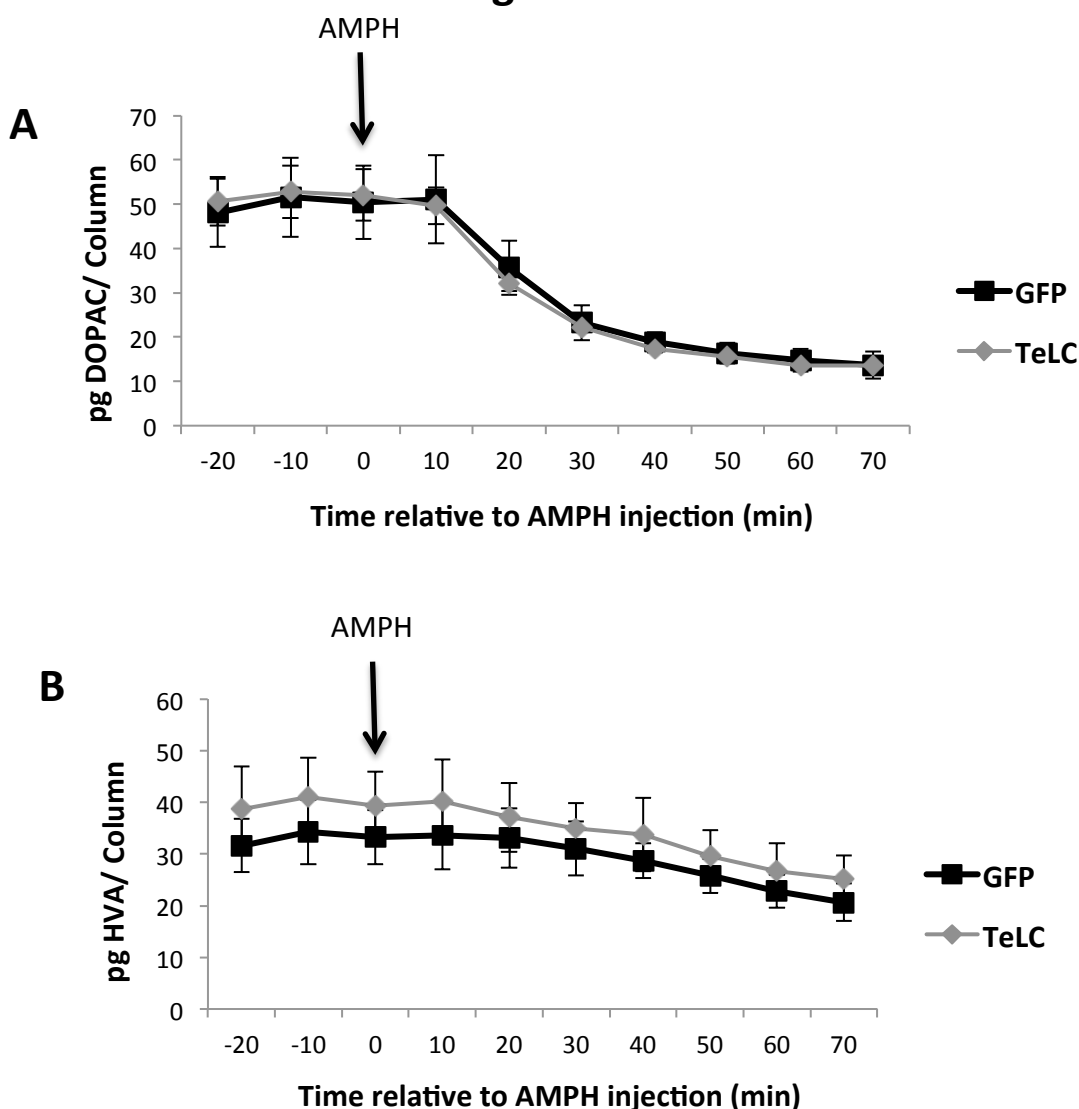


Figure S3. Silencing PV+ GABAergic interneurons of the NAc does not alter basal or AMPH-induced extracellular levels of DA metabolites in the NAc. A. DOPAC in microdialysis samples collected as in **Fig. 3**. There was no difference between viral groups at baseline (rmANOVA effect of virus: $F_{1,10}=0.033, p=0.85$). AMPH significantly depressed levels in both groups (rmANOVA effect of time: $F_{6,60}=59.5, p<0.001$) such that there was no significant effect of the virus ($F_{1,10}=0.10, p=0.75$) and the time by virus interaction was not significant. B. HVA in microdialysis samples collected as in **Fig. 3**. There was no effect of virus on levels at baseline ($F_{1,10}=0.52, p=0.48$). AMPH significantly depressed levels in both viral groups (effect of time: $F_{6,60}=15.0, p<0.001$) with no significant effect of virus ($F_{1,10}=0.39, p=0.54$). $n=6$ GFP, $n=6$ TeLC mice.

Figure S4

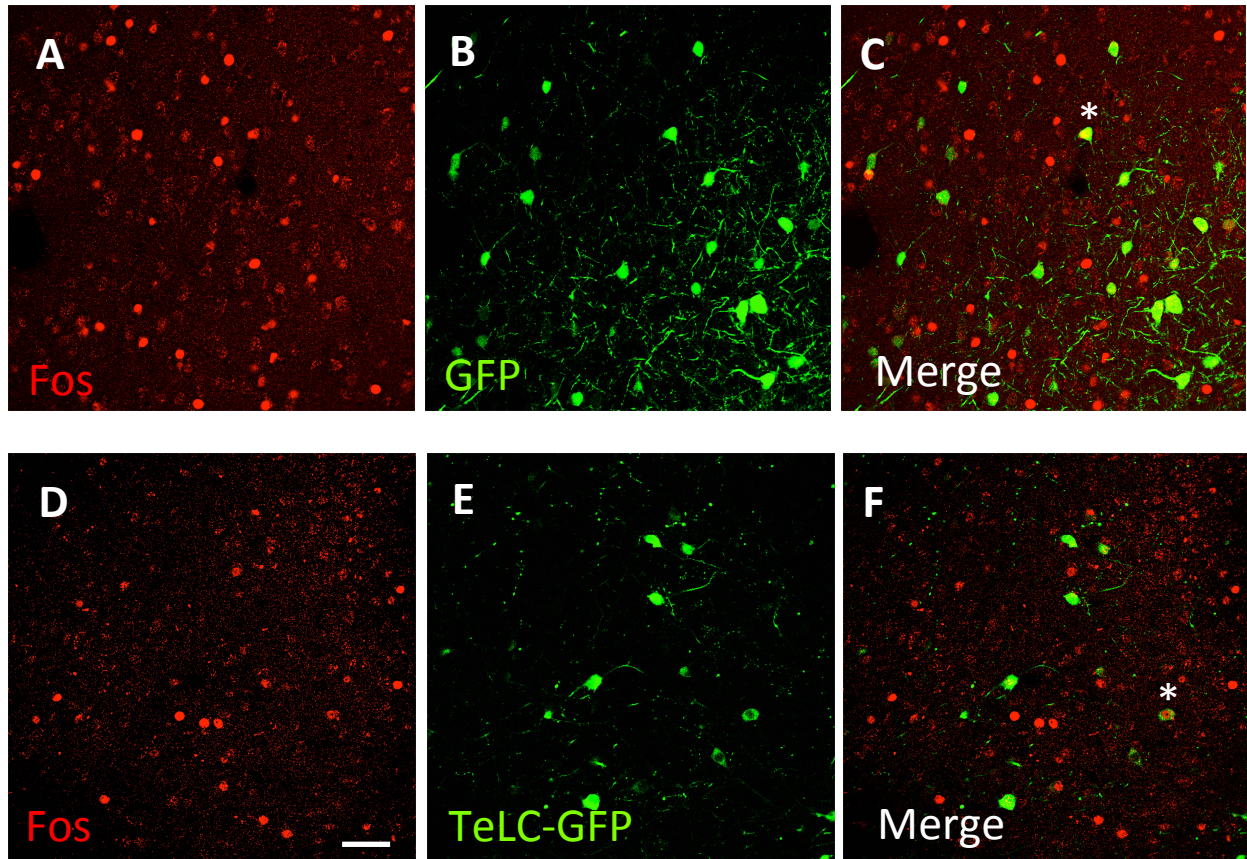


Figure S4. AMPH induced Fos occurs predominantly in cells that are outside of the PV+ virally-infected population of neurons in the NAc. *Pvalb*-Cre mice stereotaxically injected with GFP or TeLC viruses were euthanized 2 hr following a challenge dose of 3 mg/kg AMPH (i.p.) in the open field. Fos expression in the NAc was compared to the location of GFP (A-C) and TeLC-GFP (D-F) infected cells. Only occasional cells marked by the white asterisk (*) were double labeled for both Fos and GFP/TeLC-GFP (C,F). Scale bar = 50 μ m.