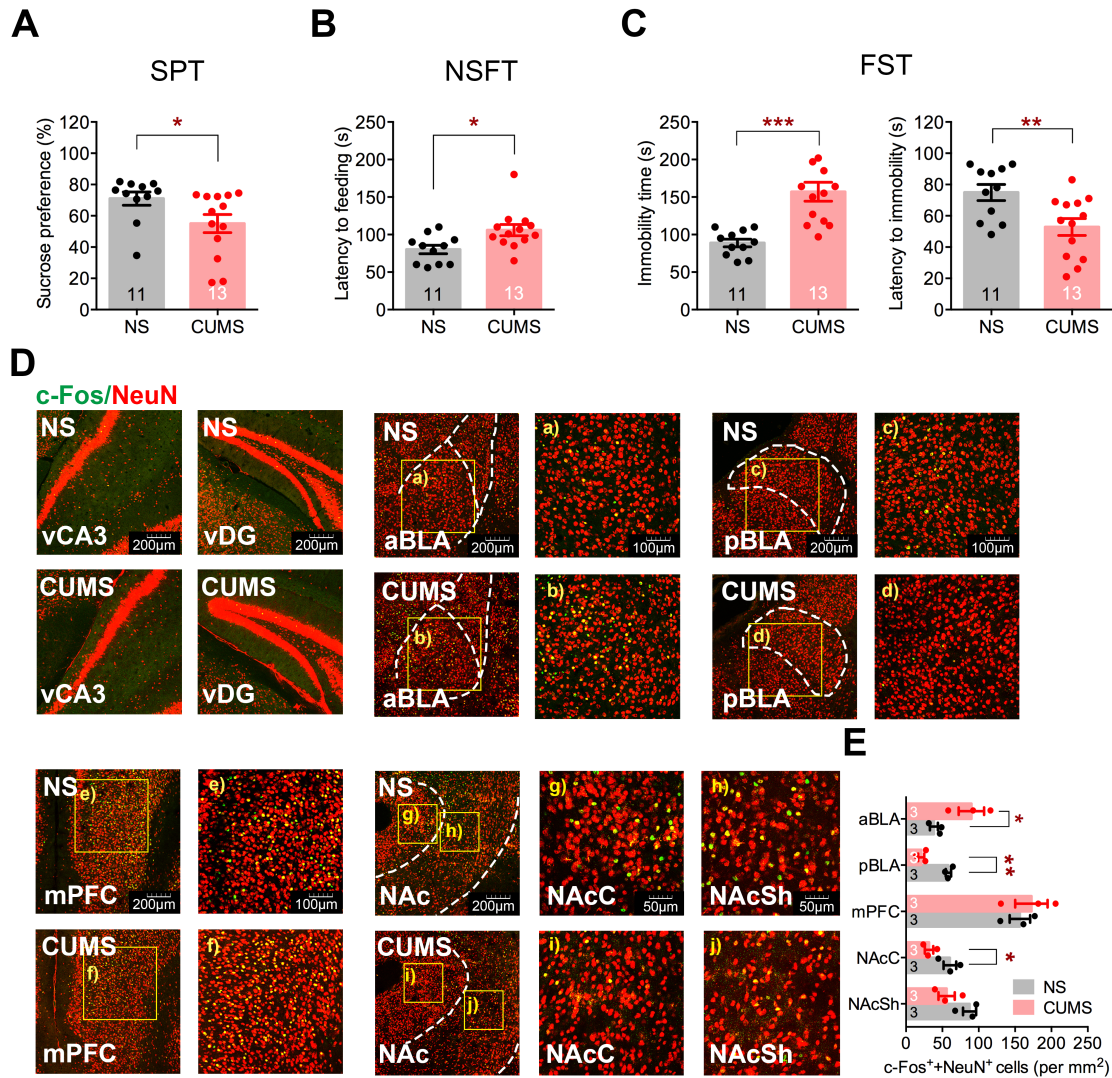
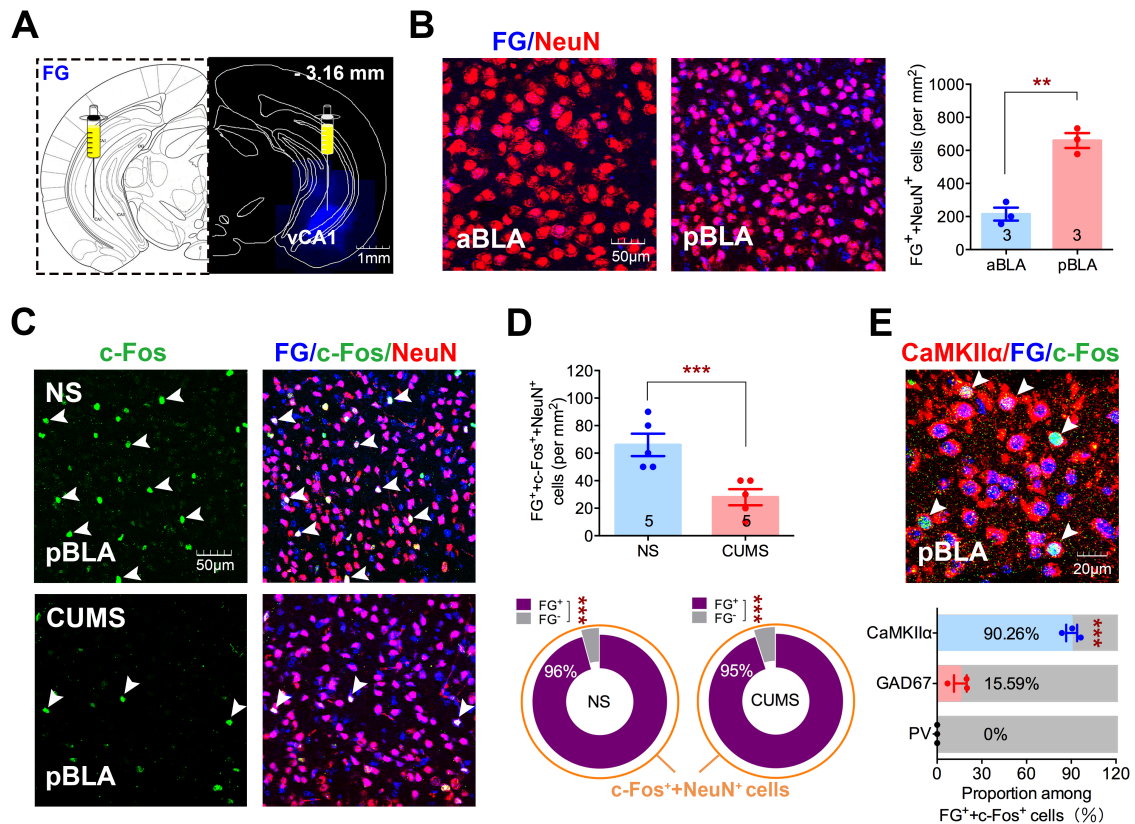


Supporting Information



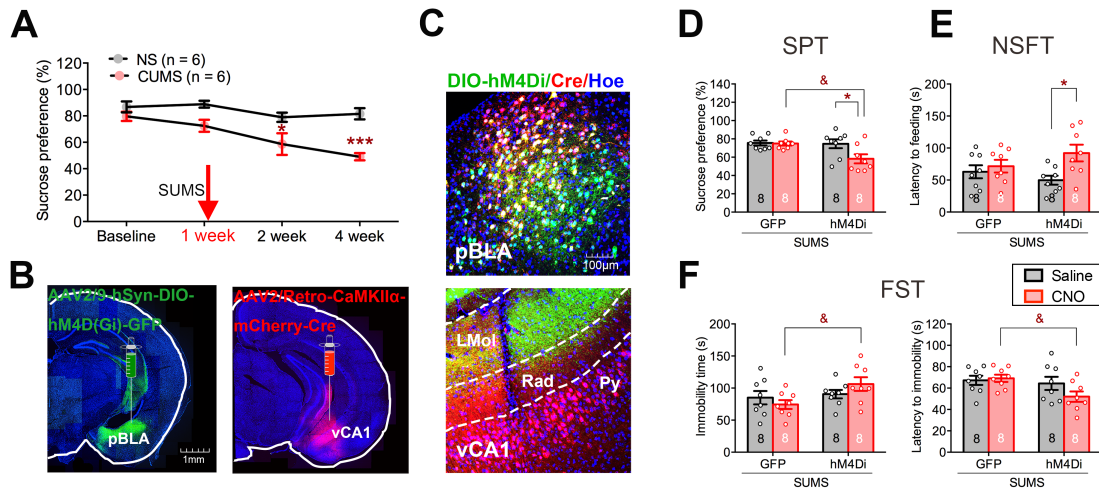
Supplementary Figure S1. Mice subjected to CUMS show decreased neuronal activity and classic depressive-like behaviors.

(A) Sucrose preference in SPT. (B) Latency to feeding in NSFT. (C) Left, immobility time in FST. Right, latency to immobility in FST, Unpaired Student's *t* tests, **P* < 0.05, ***P* < 0.01, ****P* < 0.001. (D) Representative images of c-Fos (green) and NeuN (red) co-labeled cells in vCA3, vDG, aBLA, pBLA, mPFC and NAc respectively. (E) Quantification of c-Fos and NeuN double-positive cells in aBLA, pBLA, mPFC, NAcC and NAcSh respectively. Unpaired Student's *t* test, **P* < 0.05, ***P* < 0.01. Data are presented as the mean ± SEM.



Supplementary Figure S2. Retrograde tracing identifies pBLA as the upstream region projecting to vCA1 while CUMS decreased the activity of pBLA-vCA1 innervation.

(A) Representative images of FG injection sites in vCA1 (blue). (B) Representative images and quantification of FG (blue) and NeuN (red) co-labeled in aBLA and pBLA respectively. Unpaired Student's *t* test. $^{**}P < 0.01$. (C) Representative images of FG (blue), c-Fos (green) and NeuN (red) co-labeled cells in pBLA of NS and CUMS groups. White arrowheads indicate c-Fos positive (left) and co-labeled (right) cells. (D) Top, quantification of FG, c-Fos and NeuN triple-positive cells in pBLA. Unpaired Student's *t* test, $^{***}P < 0.001$. Bottom, proportion of FG-positive or FG-negative cells co-labeled with c-Fos-positive neurons. Two-way ANOVA with Sidak's post hoc test, $^{***}P < 0.001$. N = 5 per group. (E) Top, representative images of CaMKIIα (red), FG (blue) and c-Fos (green) positive cells in pBLA of NS group. White arrowheads indicate co-labeled cells. Bottom, quantification of CaMKIIα-, GAD67- or PV-positive cells co-labeled with FG and c-Fos double-positive cells in NS group. One-way ANOVA with Tukey's post hoc test, $^{***}P < 0.001$. N = 3 per group. Data are presented as the mean ± SEM.



Supplementary Figure S3. Inhibition of pBLA-vCA1 innervation exacerbates depressive-like behaviors.

(A) Sucrose preference at baseline and 4 weeks after CUMS procedure. Two-way ANOVA with Sidak's post hoc test, $^*P < 0.05$, $^{***}P < 0.001$, CUMS vs. NS group; $N = 6$ per group. SUMS, subthreshold unpredictable mild stress. (B) Representative images of DIO-hM4Di and CaMKII α -Cre injection sites in pBLA (left) and vCA1 (right) respectively. (C) Representative images of DIO-hM4Dq (green), CaMKII α -Cre (red) expression and Hoechst (blue) in pBLA and vCA1 respectively. (D) Sucrose preference in SPT. (E) Latency to feeding in NSFT. (F) Left, immobility time in FST. Right, latency to immobility in FST. Two-way ANOVA with Sidak's post hoc test, $^*P < 0.05$; $^{\&}P < 0.05$. Data are presented as the mean \pm SEM.