## Supplemental Methods

### Chronic inflammatory pain model

For chronic inflammatory pain model, unilateral injection of complete Freund's adjuvant (20 μl) (CFA) was performed into the intraplantar surface of mouse hindpaw, as described previously. Behavioral tests including pain sensitivity, EPM, TST and SPT were conducted before and at 7d, 14d after CFA injection. Western blotting was performed to examine the changes of Lamb1 in the ACC at 14 d following CFA inflammation.

### Chronic CORT and chronic restraint stress model

For chronic CORT exposure experiments, mice were exposed to 0.1 mg/ml CORT (dissolved by ethanol to 10 mg/ml and added in animal drinking water) for 21 d. A control group was exposed to regular drinking water with 1% ethanol. For chronic restraint stress experiments, mice were restrained in tubes full of holes for ~4 h per day for successive 21 d. Except for these 4 h, mice had regular activity and diet for the remainder of the day. A control group had gentle handling for ~15 min per day for 21 d. EPM, TST and SPT test were performed at 21 d after chronic CORT exposure and chronic restraint stress, respectively. Subsequently, western blotting was performed to examine the changes of Lamb1 in the ACC in two depression models.

### Behavioral analyses

All mice were allocated randomly in experimental group. Before behavioral tests, mice were allowed to acclimatize to the behavioral testing room for 3 days and in individual test compartments for at least 1 h. All testing was conducted in a blinded manner.

**Mechanical allodynia**: Mechanical withdrawal threshold testing (von Frey test) was conducted using calibrated von Frey filaments ranging from 0.008 - 2.0 g (0.008, 0.02, 0.04, 0.07, 0.16, 0.40, 0.60, 1.0, 1.4 and 2.0 g) on an elevated mesh-bottomed platform (Danmic Global, CA, USA). Beginning with 0.008 g, filaments were applied to the lateral plantar surface with just enough force to bend the fiber and held for 1 s. A “positive response” to the von Frey mechanical stimuli was defined as an abrupt foot lift upon application of von Frey hairs. Each filament was applied 10 times and the paw withdrawal response frequency was recorded. The force of a particular filament required to elicit 50% frequency of paw withdrawal was expressed as the mechanical threshold.

**Thermal nociception**: This experiment was performed using a device (IITC model 400, Woodland Hills, CA, USA) to identify thermal sensitivity of mice. Mice were placed in the individual test compartments on a temperature-controlled glass platform kept to 30°C and the lateral plantar surface of hindpaw was stimulated with a radiant heat source (50 W halogen bulb) directed through an aperture. The time elapsed from initiation of the stimulus until paw withdrawal was recorded as paw withdrawal thermal latency. Each hindpaw was tested 5 times with 5-min intervals, and the withdrawal latency values

averaged. To avoid tissue damage by prolonged thermal stimuli, cut off latency was set as 20 s.

**Open field test (OFT)**: All tests were performed during the dark phase, and the light intensity was controlled in the same condition. The open field chamber was a 50 × 50 × 40 $cm^3$ box, and the mice were placed into a corner area at the start of the test. The activity of the mouse was video-recorded for 10 min. Between sessions, the chamber was thoroughly cleaned with 70% ethanol to remove residual odors. The parameters measured included the distance and the time traveled in the center area and the total distance moved. The zone crossings were analyzed with SMART v.3.0 software (Panlab Harvard Apparatus, Newbury Park, CA, USA).

**Elevated plus-maze (EPM) test**: All tests were performed during the dark phase, and the light intensity was controlled in the same condition. This test was performed in a maze consisting of two open arms (30 × 5 $cm^2$) and two enclosed arms (30 × 5 × 30 $cm^3$) that extended from a central platform (5 × 5 $cm^2$) at 90°. The mice were placed into the central platform facing an open arm at the start of the test. The activity of the mouse was video-recorded for 5 min. Between animals, the maze was thoroughly cleaned with 70% ethanol to remove residual odors. The parameters measured included the distance and the time traveled in the open arm area and the total distance moved. The zone crossings were analyzed using SMART v.3.0 software.

**Tail suspension test (TST)**: Mice were suspended about 15 cm from the top

of a compartment using lab tape and video-recorded for 6 min. Meanwhile, a small plastic tube was placed around the tail to avoid tail climbing. The behavioral apparatus was thoroughly cleaned with 70% ethanol to remove residual odors between animals. Immobility time was calculated with consistent criteria by observer blind to the experimental condition of the animals.

**Sucrose preference test (SPT)**: Before the test, each mouse was temporarily single-housed in a cage, and trained to adapt to 1% sucrose solution (W/V): two bottles of 1% sucrose solution were placed in each cage. After 24 h, one sucrose bottle was replaced with a bottle of water for 24 h. Then mice were deprived of water and food for 24 h. After that, a bottle of 1% sucrose solution and a bottle of water were placed in each cage for 12 h. Sucrose solution and water consumption were calculated by weighing the bottle before and after 12-h testing session, and the sucrose reference was calculated as follows: sucrose preference = sucrose consumption / (sucrose consumption + water consumption).

***Quantitative RT-PCR***

Contralateral ACC tissues from sham and SNI-treated mice (7d, 28d, 56d post SNI) were harvested and shock-frozen on dry ice. Total RNA was extracted from cultured cortical neurons or ACC tissue using TRIzol Reagent (Invitrogen) in accordance with the manufacturer's protocol. RNA extracts were reverse-transcribed by PrimeScript RT Master Mix (TaKaRa, #RR036A, Dalian, China)

at 37 °C for 15 min and 85 °C for 5 s. Targets were then amplified in triplicate by quantitative RT-PCR using TB Premix Ex Taq (#RR820A, TaKaRa) on a StepOnePlus Real-Time PCR System (Applied Biosystems, Foster City, CA, USA), normalized to GAPDH, and quantified by the comparative cycle threshold method ($2^{\Delta\Delta CT}$). Primer sequences was used as follows. *Lamb1* forward: CAGTGCCAGTGCCGTCCTAATG, reverse: CCAGTGATCGCATCGCAGAAGG; *GAPDH* forward: TGTGTCCGTCGTGGATCTGA; reverse: TTGCTGTTGAAGTCGCAGGAG.

**Western blotting**

Contralateral ACC tissues were dissected from brain of mice subjected to sham or SNI surgery (7d, 28d and 56d post SNI) and lysed using RIPA lysis buffer (50 mM Tris-HCl, pH 7.4, 150 mM NaCl, 5 mM EDTA, 1% Triton X-100, 0.5% sodium deoxycholate, 0.1% SDS) and standard protease inhibitors by sonication on ice, and centrifuged at 12,000 rpm for 10 min. Total protein was measured by BCA Protein Assay Kit (#23225, Thermo Scientific, Waltham, MA, USA), mixed with 5× SDS-PAGE loading buffer (#CW0027, CWBIO, Beijing, China), and heated at 100 °C for 10 min. Protein samples were resolved by SDS-PAGE, and immunoblotted with corresponding antibodies (Supplementary table 1). Proteins were visualized with enhanced chemiluminescence detection methods. The scanned images were quantified using ImageJ software. Specific bands for each protein were normalized to its respective β-actin or GAPDH

loading control.

For extraction of membrane proteins, cells were lysed using Plasma membrane protein isolation and cell fraction kit (#SM-05, Invent, Beijing, China) in accordance with the manufacturer's protocol, and membrane protein were immunoblotted with appropriate antibodies (Supplementary table 1).

In a subset of experiments for confirming AAV virus injection confined to ipsilateral ACC, some adjacent cortical and subcortical regions were dissected and lysed including PrL, RSG, LSD, M2 except injected ACC.

**Immunofluorescence labelling**

Wildtype mice were anesthetized with pentasorbital sodium and transcardially perfused with saline followed by 4% paraformaldehyde. Brain tissues were removed, postfixed overnight in 4% paraformaldehyde, and cryoprotected in 30% sucrose at 4 °C until the tissue sank to the bottom of the container. Serial sections (16 μm in thickness) were cut on a cryostat and were immunostained with appropriate antibodies (Supplementary table 1). Briefly, sections were incubated with a solution containing 0.3% Triton X-100 and 5% bovine serum albumin (BSA) for 1 h at room temperature. Sections were then incubated with primary antibodies over night at 4 °C. After three washes with PBST, the secondary antibodies were applied for 2 h at room temperature. For Phalloidin staining, the sections or cultured cells were stained with SF633 Phalloidin (200 U/ml, 1:100) for 20 min. The nuclei were stained by hoechst (1:1000). All

images were captured with an Olympus confocal microscope (Olympus FV1200，Ishikawa，Japan).

**Cortical cell culture**

Cortical neurons were prepared from E17-E19 mice cortex. Briefly, pregnant mice were anesthetized with 1% pentasorbital sodium via intraperitoneal injection, and pups were removed under pathogen-free condition. Cortices were isolated and cut into pieces under ice cold condition. After that, the dissociated cells with 0.05% trypsin were plated onto dishes or glass coverslips coated plates precoated with poly-L-lysine. The cells were cultured in Neurobasal (#10888022, Invitrogen) with B27 supplement and 2 mM glutamate. Three days later, the cells were infected with LV-shLamb1-EGFP or LV-Scrambled shRNA-EGFP for 7 d, and fixed or collected for further study.

**Pharmacological rescue experiments**

The ACC from sham-treated or 8 w post-SNI mice was implanted with bilateral 26 gauge (Ga) stainless steel guide cannula (0.8 mm separation, RWD Life Science) according to the above coordinates and fixed with dental cement. The removable obturators (33 Ga OD) at the full length of the guide cannula were inserted into the guide cannula to limit obstruction. After surgery, animals were housed separately and recovered for ~7 d. For microinjections, mice were lightly anesthetized using isoflurane and obturators were removed. Sterile 33

Ga microinjection needles were connected to two 10 μl microsyringes (Hamilton, Bonaduz, Switzerland) via PE-50 tube. 600 nl pyrintegrin (0.1, 1 or 10 mM) or 0.9% saline as vehicle was infused per side over a 2 min period. Then, the microinjection needles were kept in place for additional 10 min for drug diffusion. After the diffusion, the injection needle was removed and the obturator was replaced. Behavioral tests were performed at ~1 h after microinjection.

**Stereotaxic surgery**

Mice were anesthetized with 1% pentasorbital sodium via intraperitoneal injection, and their heads were fixed in a stereotactic frame (RWD Life Science Inc., Shenzhen, China). Their eyes were applied to erythromycin to prevent corneal drying. All skull measurements were made relative to Bregma, and virus was injected into the ACC at a rate of 50 nl/min using a 10-μl microsyringe (Gaoge, Shanghai, China) with a microelectrode to deliver the virus using a microsyringe pump (Kd Scientific, Holliston, MA, USA). After viral injection, the microelectrode was kept in place for 10 min to allow diffusion of the virus. The stereotaxic coordinates for ACC injection were anterior posterior (AP) 1.00, medial lateral (ML) 0.25 and dorsal ventral (DV) 1.90 mm. For Lamb1 knockdown experiments, 300 nl of AAV2/9-U6-Lamb1 shRNA-CMV-EGFP or AAV2/9-U6-scrambled shRNA-CMV-EGFP was unilaterally injected into the right ACC. For calcium imaging in Lamb1 knockdown mice, 500 nl mixture of a 1：2 ratio of AAV2/9-CaMKIIa-GCaMP6s and AAV2/9-U6-Lamb1 shRNA-CMV-

mCherry or AAV2/9-U6-scrambled shRNA-CMV-mCherry was injected unilaterally into the right ACC, and optical fiber (230 μm optical density (OD), 0.37 numerical aperture (NA), Thorlabs) were implanted in the injected ACC (from Bregma: AP +1.00 mm, ML 0.25 mm, DV 1.7 mm). In a subset of experiments for integrin β1 knockdown, 300 nl of AAV2/9-U6-Lamb1 shItgb1-CMV-EGFP or AAV2/9-U6-scrambled shRNA-CMV-EGFP was unilaterally injected into the right ACC. Data were excluded in experiments when the viral injections were inaccurate.

**Golgi staining**

Golgi-Cox staining was performed as described previously. In brief, mice were subjected to sham or SNI surgery, which was followed by contralateral intracingulate injection of AAV-shLamb1 or AAV-scrambled shRNA at 8 w after surgery. After virus transfection for 4 w, the brain tissue was freshly removed, washed in distilled water, and immersed in Golgi-cox solution (5% potassium chromate, 5% potassium dichromate, and 5% mercuric chloride) for fixation, and maintained in the dark at room temperature for 2-3 d. Then the brains were transferred to a fresh Golgi-Cox Solution for 14 d and further to 30% sucrose for 2 d. Coronal sections containing ACC (150 μm) were cut on a vibratome and mounted on gelatinized glass slides. For staining, brain sections were washed in deionized water for 1 min, placed in 50% $NH_4OH$ for 30 min, and subsequently in fixing solution (Kodak; Rochester, NY, USA) for an additional

30 min. The sections were then incubated in 5% sodium thiosulfate for 10 min. After washing with distilled water, sections were dehydrated, cleared and coverslipped. The images were captured using an FV1200 confocal microscopy (Olympus, Ishikawa, Japan) and Imaris software (v.7.7.1, Bitplane, Switzerland) was used to reconstruct neuronal dendritic arbors and dendritic spines. Dendritic length, branching complexity and branch-point locations in a series of concentric circles (at 10-μm radius increments from the soma) throughout the whole dendritic arbor were quantified for the Sholl analysis. Consistent with previous studies, further high-resolution analysis enabled classifying synaptic spines into long thin, filopodia, stubby and mushroom subtypes. Dendritic spine classification was then completed in the Imaris spine classification module. In brief, spines with length < 1 μm are categorized as stubby spines, those with length < 3 μm and max head width > mean of neck width*2 are categorized as mushroom spines, spines with mean of head width ≥ mean of neck width are categorized as long thin type, filopodia spines are those except the above three types.

The sections were observed under the bright field of confocal microscope FV1200, images were taken by z-stack scanning with the excitation wavelength of 405 nm, and then the virtual color was converted into green color.

**Supplemental figure legends:**

**Supplemental Figure 1:** Spared nerve injury induces exaggerated pain response. (A) Comparison of mechanical threshold to von Frey hairs in the ipsilateral hindpaw at different time points in mice subjected to sham operation or SNI. Friedman's *M* test. (B, C) Typical examples showing response frequency to von Frey hairs (B) and mechanical threshold (C) at 7d after SNI surgery as compared to sham group. Two-tailed unpaired separate variance estimation t-test. (D, E) Comparison of thermal latency to radiant heat stimulation in the ipsilateral hindpaw at different time points in mice subjected to sham operation or SNI. Friedman's *M* test. (E) Typical examples showing thermal hyperalgesia at 7d after SNI surgery as compared to sham group. Two-tailed unpaired t-test. (F) Time course of mechanical allodynia observed in contralateral hindpaw after SNI surgery as compared to sham group. Friedman's *M* test. (G, H) Typical stimulus-response curve (G) and mechanical threshold (H) in contralateral hindpaw at 7d after SNI operation in comparison with sham group. Two-tailed unpaired t-test. (I) Comparison of thermal latency in the contralateral hindpaw at different time points in mice subjected to SNI operation or sham. Friedman's M test. (J) Typical examples showing thermal latency at 7d after SNI surgery as compared to sham group. Two-tailed unpaired t-test. n = 12. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. $^{**}P < 0.01$, $^{****}P < 0.0001$.

**Supplemental Figure 2:** Spared nerve injury induces the anxiodepressive-like behavior. (A-G) Representative trajectory (A) and quantitative summary of time staying (B, C), distance travelling (D, E) in the centre area as well as total distance (F, G) in the OFT paradigm in sham- and SNI-treated mice. Friedman's *M* test in (B) and (D), Two-tailed unpaired t-test in (C) and (G), Two-tailed unpaired separate variance estimation t-test in (E), Repeated measurement ANOVA in (F). (H-N) Representative trajectory (H) and quantitative summary of time staying (I, J), distance travelling (K, L) in the open arm as well as total distance (M, N) in the EPM paradigm in sham- and SNI-treated mice. Friedman's *M* test in (I), (K) and (M), Two-tailed unpaired separate variance estimation t-test in (J) and (L), Two-tailed unpaired t-test in (N). (O-Q) Duration of immobility in TST (O, P) and sucrose preference in SPT paradigm (Q) in sham- and SNI-treated mice. Repeated measurement ANOVA in (O). Two-tailed unpaired t-test in (P) and (Q). n = 10. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. **P* < 0.5, ***P* < 0.01, *****P* < 0.0001.

**Supplemental Figure 3:** The behavioral tests for mice subjected to RNA-sequencing in the contralateral ACC. (A-C) Response frequency to von Frey hairs (A) and mechanical threshold (B) as well as thermal latency to radiant heat stimulation (C) at 56 d following SNI surgery as compared to sham group.

Two-tailed unpaired separate variance estimation t-test in (B), Two-tailed unpaired t-test in (C). (D) Representative trajectory and quantitative summary of time staying, distance travelling in the centre area as well as total distance in the OFT paradigm in sham- and SNI-treated mice (56 d post surgery). Time and distance in centre area: Two-tailed unpaired t-test. Total distance: Two-tailed unpaired separate variance estimation t-test. (E) Representative trajectory and quantitative summary of time staying, distance travelling in the open arm as well as total distance in the EPM paradigm in sham- and SNI-treated mice (56 d post surgery). Two-tailed unpaired t-test. (F, G) Duration of immobility in TST (F) and sucrose preference in SPT paradigm (G) in sham- and SNI-treated mice. Two-tailed unpaired t-test. n = 3-4. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. **P* < 0.5, ***P* < 0.01, ****P* < 0.001, *****P* < 0.0001.

**Supplemental Figure 4:** Construction, verification of AAV2/9 expressing shLamb1 and specific virus injection confined to ACC, but not spreading into adjacent regions. (A) Schematic diagram showing construction of AAV2/9 expressing shLamb1. (B, C) Knockdown efficiency of 3 *Lamb1* shRNAs at mRNA (B) and protein level (C) in cultured cortical neurons (n = 3). mRNA: Kruskal-Wallis *H* test with Nemenyi multiple comparisons test. Protein: One-way ANOVA with Tukey's multiple comparisons test. (D) Schematic diagram showing experimental procedure for injection of Lamb1 shRNA-expressing

AAV2/9 into the ACC of C57BL/6 mice and behavioral testing. (E-H) Western blot analysis showing virus injection confined to ipsilateral ACC, but not spreading into the adjacent cortical and subcortical regions, i.e. PrL, RSG, LSD and M2 (n = 3). Two-tailed unpaired t-test. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. *$P$ < 0.05, **$P$ < 0.01, ****$P$ < 0.0001.

**Supplemental Figure 5:** (A, B) Contralateral mechanical sensitivity was enhanced after Lamb1 knockdown in SNI (B) but not sham condition (A) (n = 10). Mann-Whitney *U* test in (A), Two-tailed unpaired t-test in (B). (C) Contralateral thermal sensitivity was unaltered by Lamb1 knockdown in either sham- or SNI-treated state (n = 10). One-way ANOVA with Tukey's multiple comparisons test. (D, E) Quantitative summary showing time staying in the open arm (D) and total distance (E) in sham and SNI-treated mice (n = 10). Kruskal-Wallis *H* test with Nemenyi multiple comparisons test in (D). One-way ANOVA with Tukey's multiple comparisons test in (E). Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. **$P$ < 0.01, ****$P$ < 0.0001.

**Supplemental Figure 6:** (A) Schematic diagram showing the experiment procedure for examination of dendritic processes and spine remodelling after Lamb1 knockdown using Golgi staining. (B) Representative confocal stacks

and three-dimensional reconstruction images of the basal dendrites of ACC pyramidal neurons obtained from mice expressing shLamb1 and scrambled shRNA in both sham and SNI conditions (n = 12-27). (C, D) Summary of spine density (C) and length (D) on the basal dendrites of ACC pyramidal neurons obtained from mice expressing shLamb1 and scrambled shRNA in both sham and SNI conditions (n = 12-27). Kruskal-Wallis *H* test in (C). One-way ANOVA with Tukey's multiple comparisons test in (D). (E) Summary of the density of stubby-, mushroom-, long thin- and filopodia-shaped spines on the basal dendrites of ACC pyramidal neurons in the above four groups (n = 23-30). Kruskal-Wallis *H* test with Nemenyi multiple comparisons test. Scale bar: 5 μm in (B). Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. **P* < 0.5, ***P* < 0.01, *****P* < 0.0001.

**Supplemental Figure 7:** Detailed analysis of action potential (AP) properties, such as amplitude (A) (n = 5-6), threshold (B) (n = 5-6), half-width (C) (n = 8-11) and afterhyperpolarization (D) (n = 5-6) between mice expressing scrambled shRNA and shLamb1. Two-tailed unpaired t-test in (A) and (B). Mann Whitney *U* test in (C) and (D). Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information.

**Supplemental Figure 8:** (A) Comparison of response frequency to von Frey hairs in the contralateral hindpaw in SNI-operated mice after intra-ACC injection

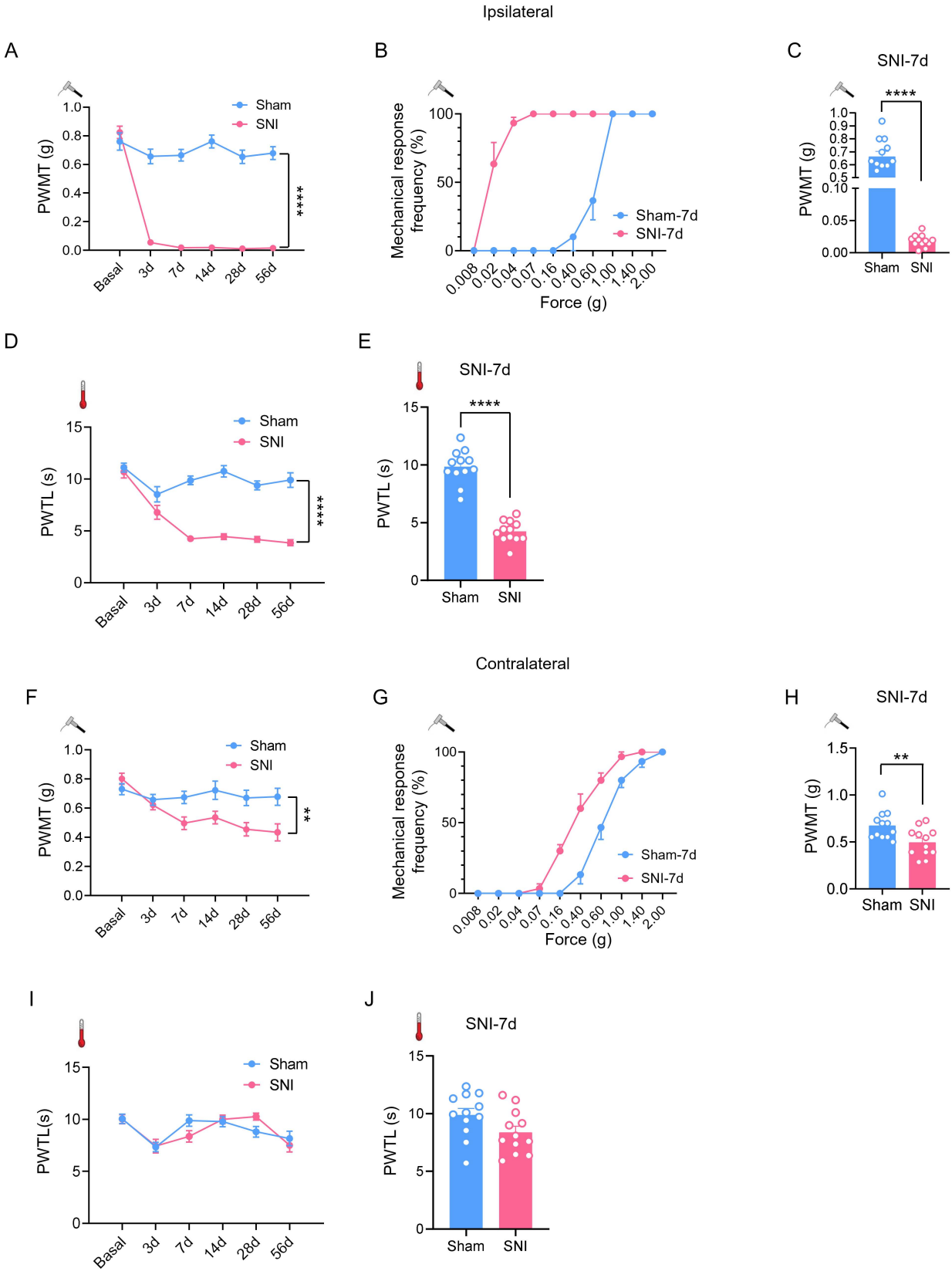
of pyrinintegrin (Pyr, 1 mM) *vs* vehicle (Veh) (n = 9). (B, C) Changes of mechanical threshold (B) and thermal latency (C) in the contralateral hindpaw in SNI-operated mice after delivery of Pyr *vs* Veh (n = 9). Two-tailed unpaired t-test. (D, E) Quantitative summary showing the time stay in the open arm (D) and total distance (E) in the EPM paradigm after intra-ACC administration of Pyr *vs* Veh in SNI-operated mice (n = 8). Two-tailed unpaired t-test in (D). Mann Whitney *U* test in (E). (F-H) Typical immunoblots and quantitative summary showing knockdown of integrin β1 (F) in the ACC caused a reduction in phosphorylation of Src (G) and increase in phosphorylation of cofilin (H), which were both eliminated by intracingulate delivery of pyrinintegrin (1 mM) (n = 3). One-way ANOVA with Tukey's multiple comparisons test. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. **P* < 0.5, ***P* < 0.01, *****P* < 0.0001.

**Supplementary Figure 9:** (A, B) Quantitative summary showing the comparable total traveling distance in the OFT (A) and EPM (B) paradigm in control and CORT-treated mice (n= 6). (C, D) Quantitative summary showing the comparable total traveling distance in the OFT (C) and EPM (D) paradigm in control and CRS-treated mice (n= 6). Two-tailed unpaired t-test. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information.

**Supplemental Figure 10:** Unilateral intraplantar surface injection of CFA induces exaggerated pain response and related anxiodepression. (A) Response frequency to von Frey hairs in the ipsilateral hindpaw at 7d after CFA inflammation (n = 10). (B, C) Magnitude of ipsilateral mechanical allodynia (B) and thermal hyperalgesia (C) in CFA-inflamed mice as compared to control group (n = 10). Two-tailed unpaired separate variance estimation t-test in (B). Two-tailed unpaired t-test in (C). (D) Quantitative summary of distance travelling in the open arm and total distance in the EPM paradigm at 14 d after CFA treatment as compared to control group (n = 9). Distance in open arm: One-way ANOVA with Tukey's multiple comparisons test. Total distance: Kruskal-Wallis *H* test. (E, F) Duration of immobility in TST (E) and sucrose preference in SPT paradigm (F) at 14 d after CFA inflammation in comparison with control mice (n = 7-9). One-way ANOVA with Tukey's multiple comparisons test in (E). Two-tailed unpaired t-test in (F). (G) Representative immunoblots and quantitative summary showing CFA inflammation induced dramatic downregulation of Lamb1 in the contralateral ACC (n = 5). Two-tailed unpaired t-test. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. *$P < 0.5$, **$P < 0.01$, ****$P < 0.0001$.

**Supplemental Figure 11:** The change of ACC LAMB1 in SNI did not show sex difference. Typical blots (A) and quantitative summary (B) showing that in female mice, LAMB1 in the ACC also displayed significant downregulation

following SNI, indicative of no sex difference in LAMB1 role in the neuropathic pain and related anxiodepression (n = 6). One-way ANOVA with Tukey's multiple comparisons test. Data are presented as mean ± S.E.M. See Supplemental Table 2 for detailed statistical information. $^{**}P < 0.01$, $^{****}P < 0.0001$.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SNI
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56d
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0.16
0.40
0.60
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1.40
2.00
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SNI-7d
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PWMT (g)
Sham
SNI
D
PWTL (s)
Sham
SNI
****
E
SNI-7d
****
PWTL (s)
Sham
SNI
Contralateral
F
PWMT (g)
Sham
SNI
**
G
Mechanical response frequency (%)
Sham-7d
SNI-7d
Force (g)
H
SNI-7d
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SNI
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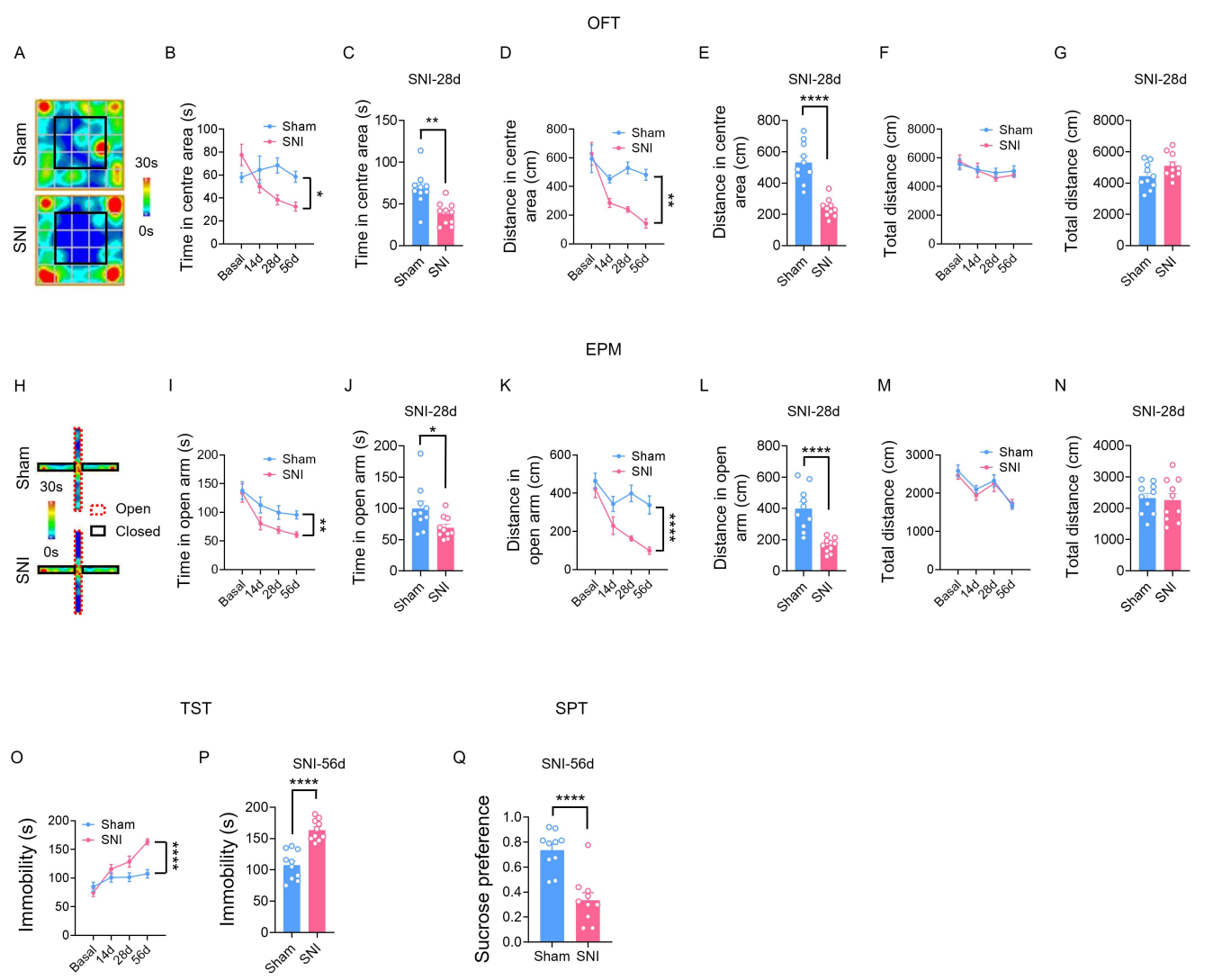
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SNI-28d
Basal
14d
28d
56d
EPM
H
I
J
K
L
M
N
Open
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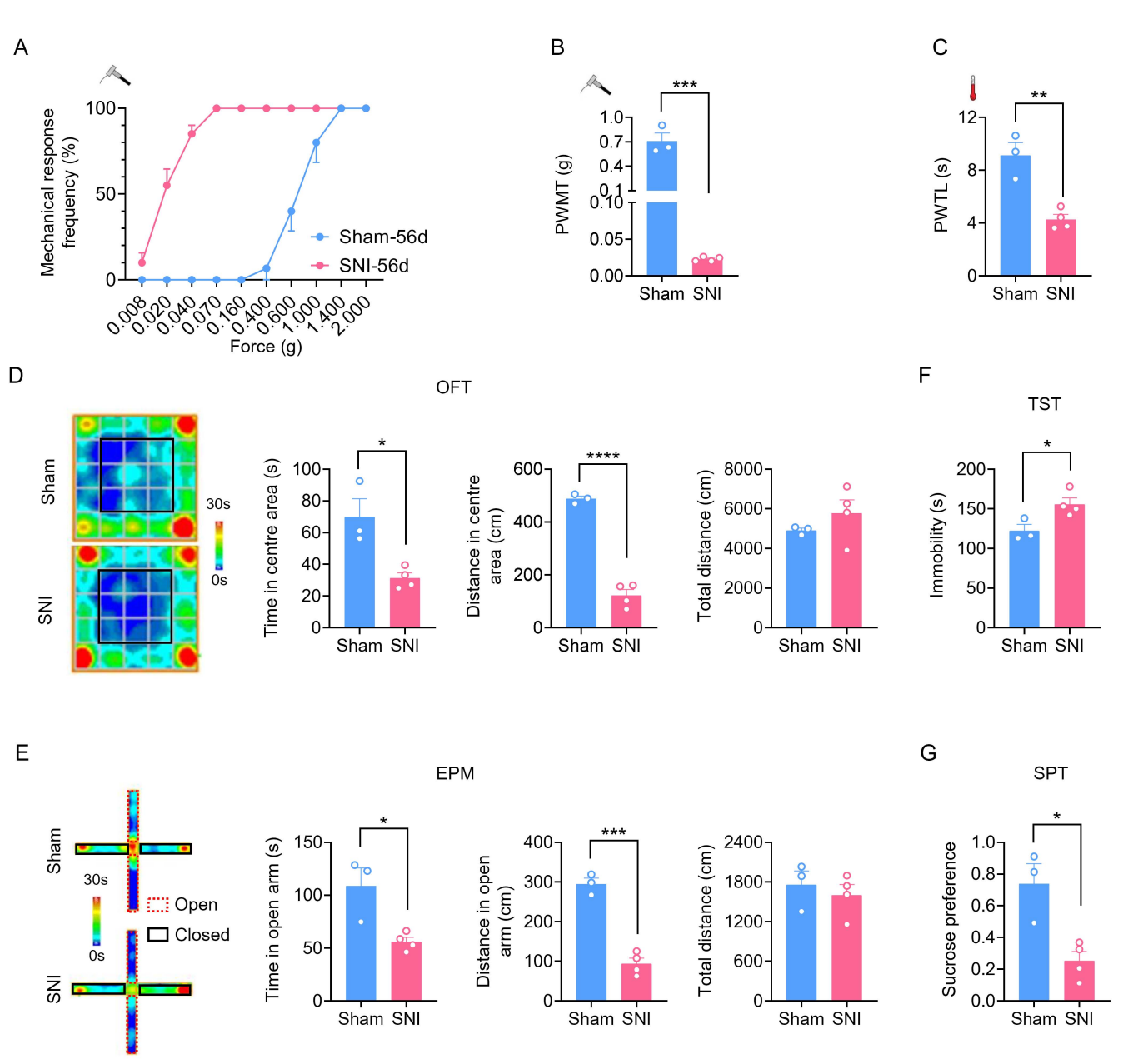
Sucrose preference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0
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SNI-56d
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0.600
1.000
1.400
2.000
Force (g)
B
PWMT (g)
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0.4
0.1
0.10
0.05
0.00
Sham SNI
C
PWTL (s)
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4
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Sham SNI
D
OFT
Sham
SNI
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30s
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Sucrose preference
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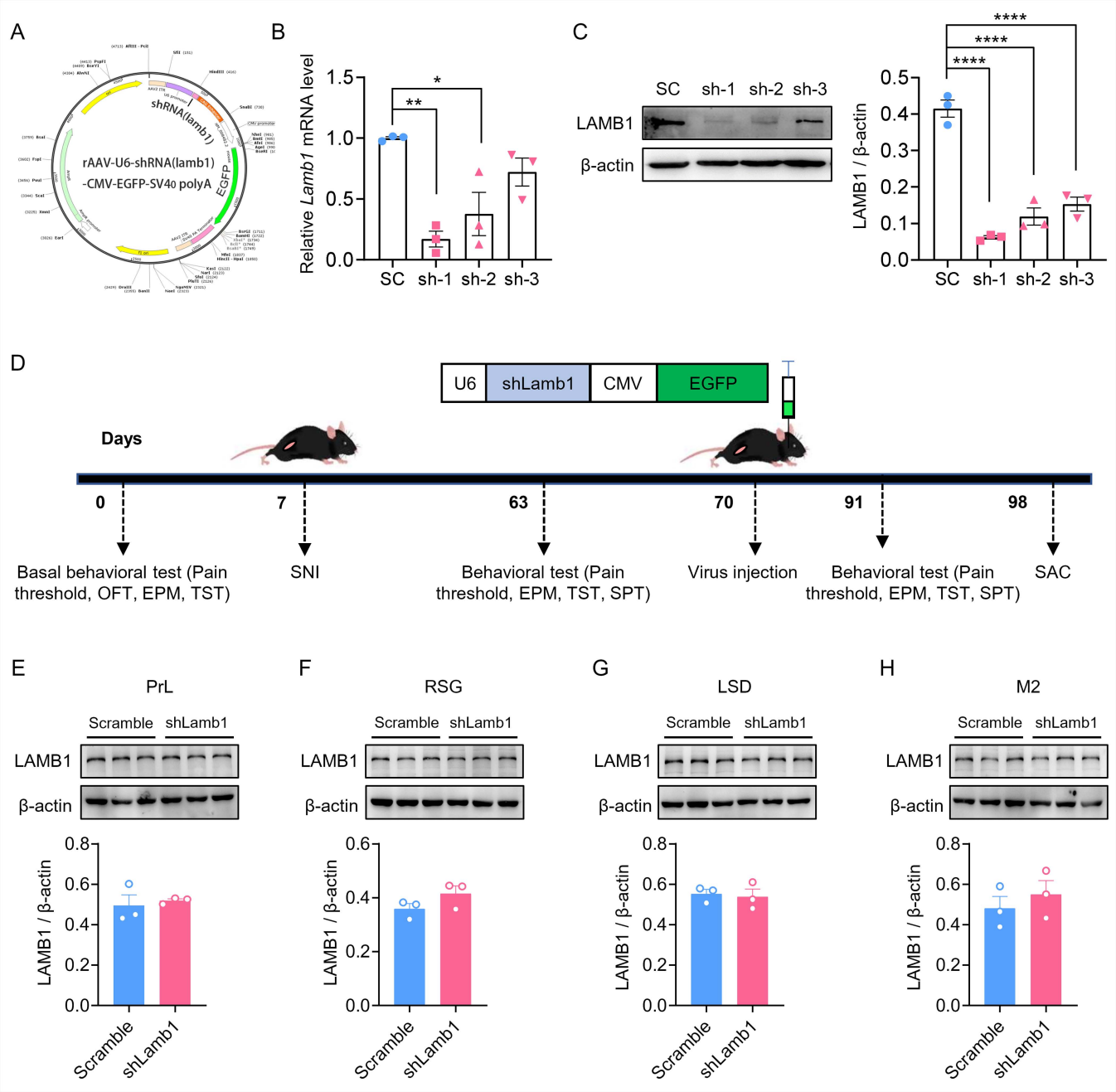
Sham SNI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sh-1
sh-2
sh-3
LAMB1
β-actin
LAMB1 / β-actin
D
U6
shLamb1
CMV
EGFP
Days
0
7
63
70
91
98
Basal behavioral test (Pain threshold, OFT, EPM, TST)
SNI
Behavioral test (Pain threshold, EPM, TST, SPT)
Virus injection
Behavioral test (Pain threshold, EPM, TST, SPT)
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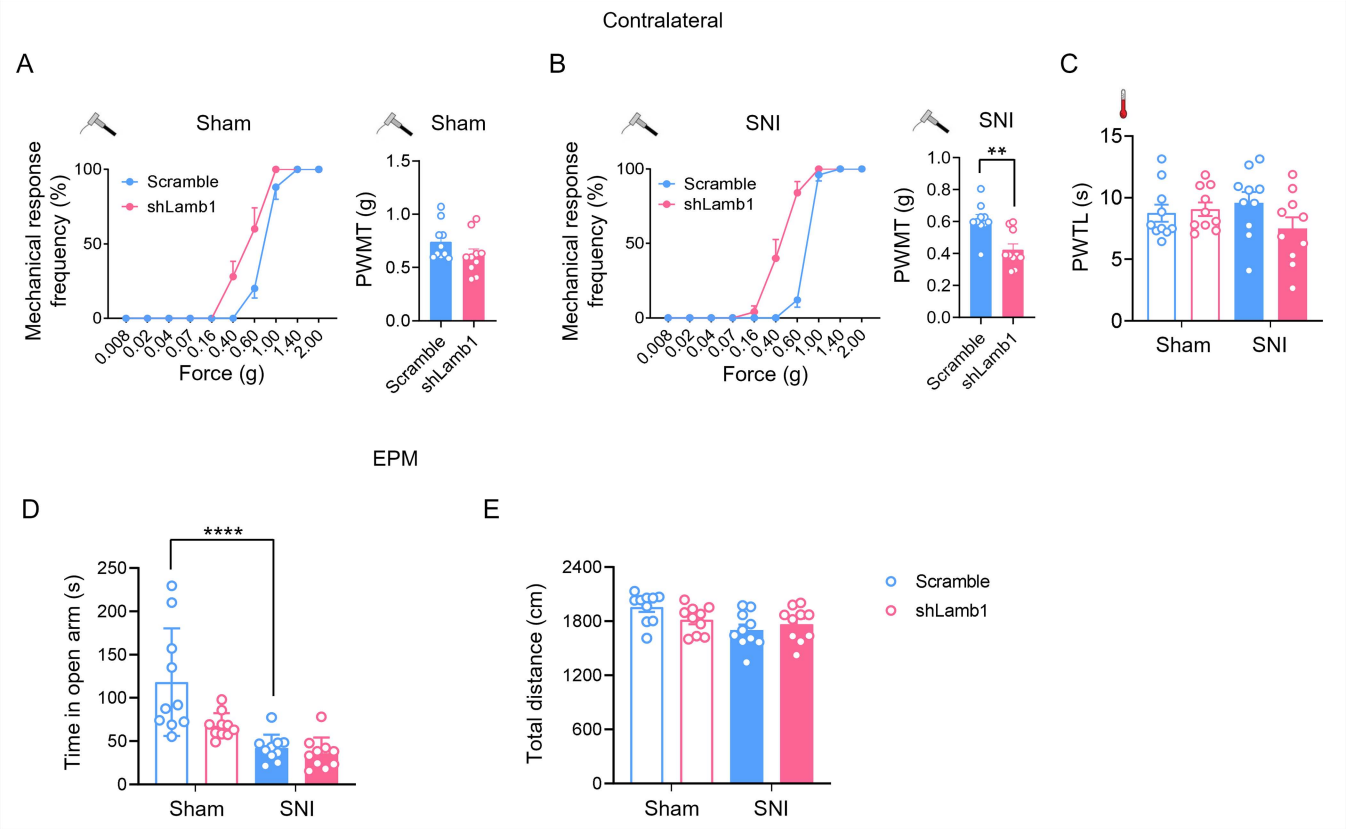
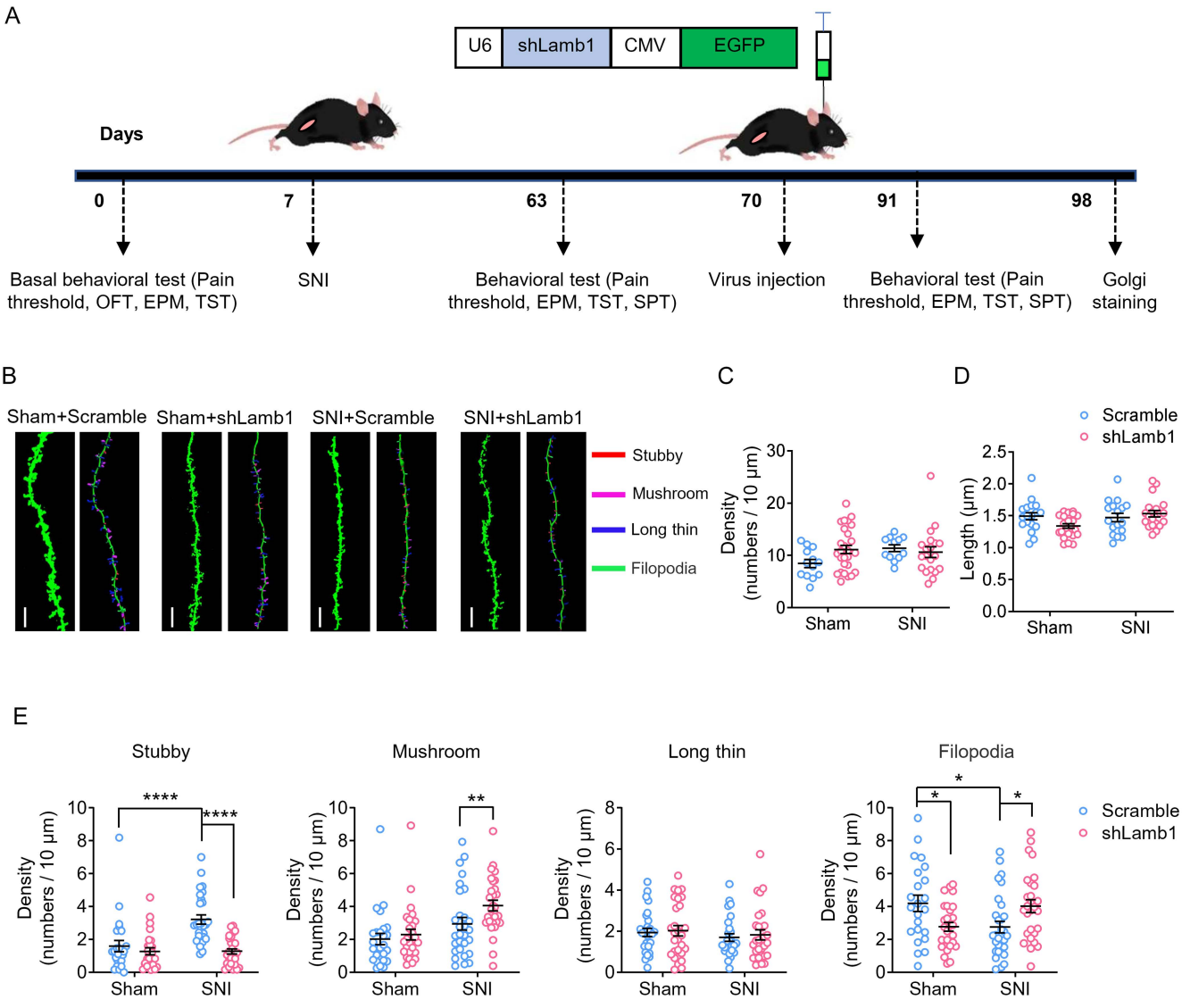
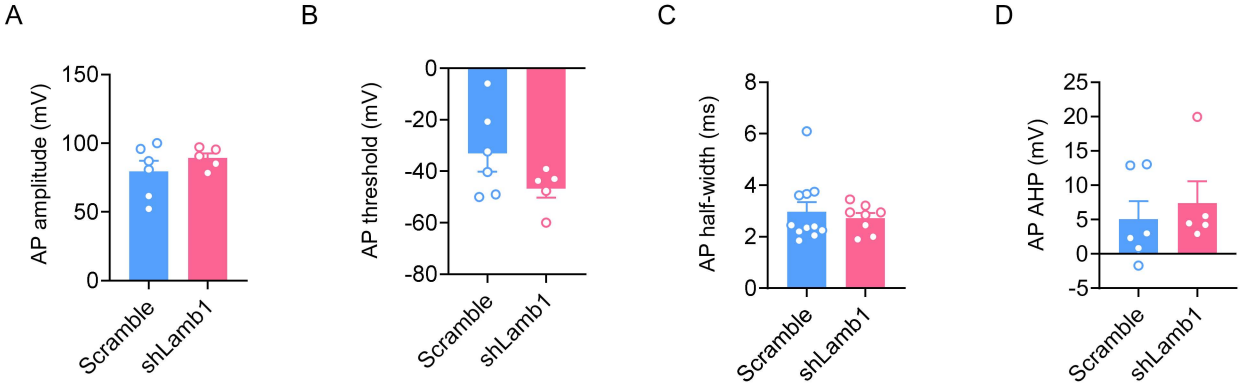
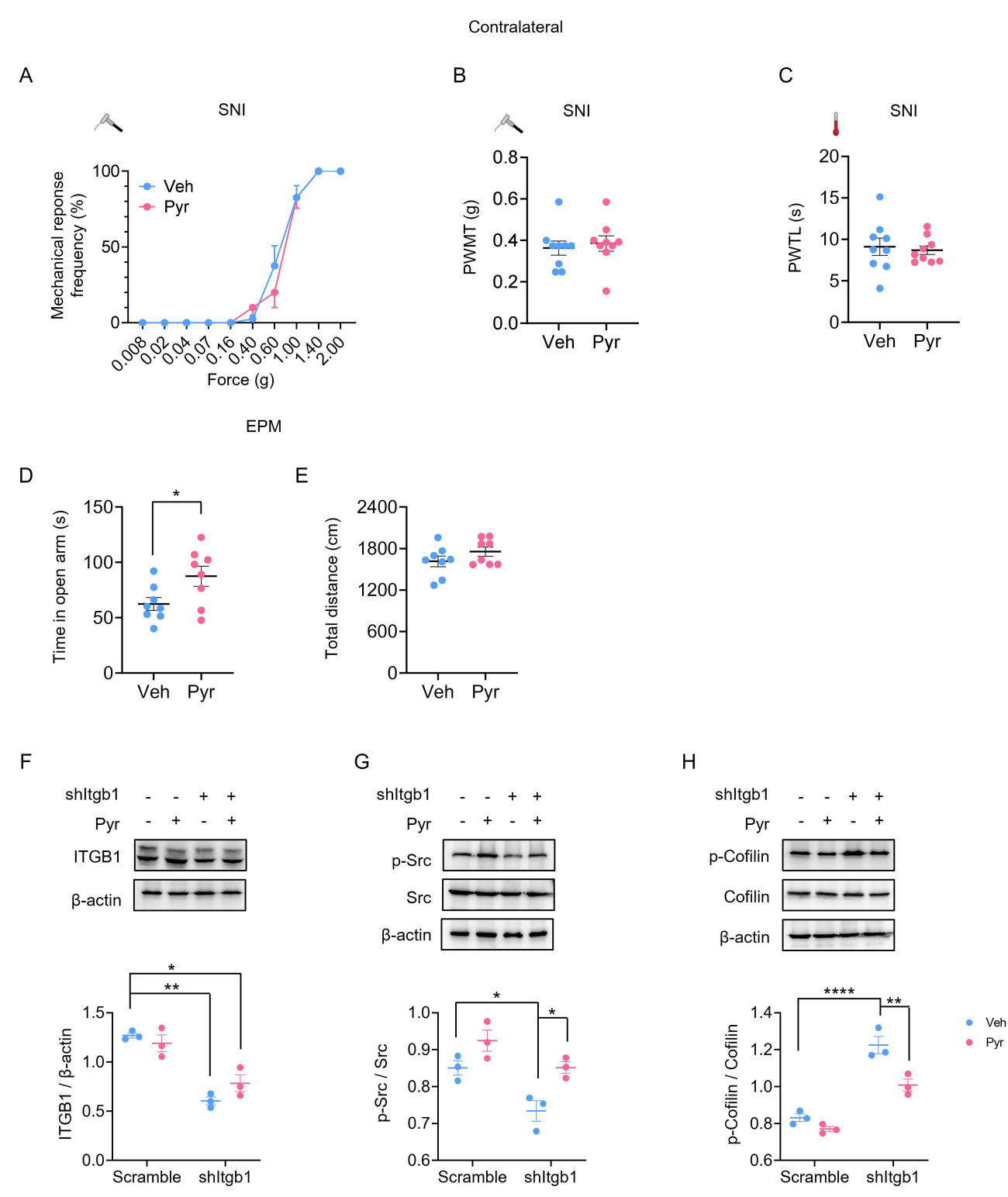
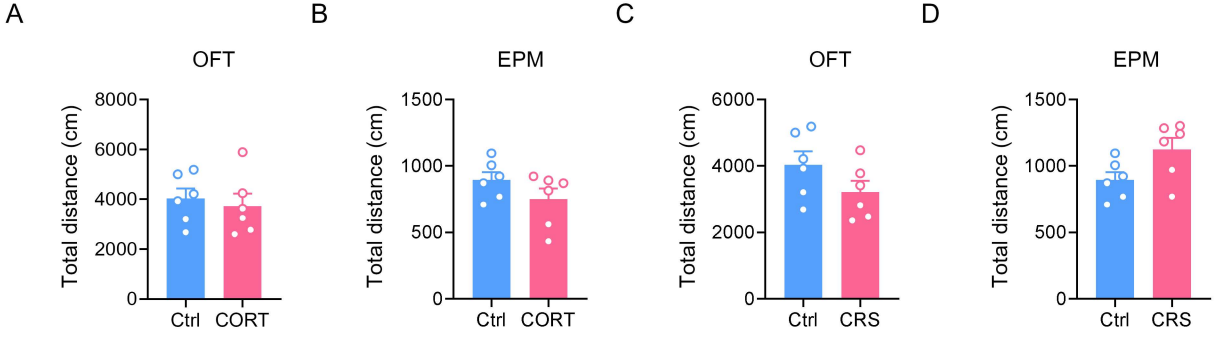
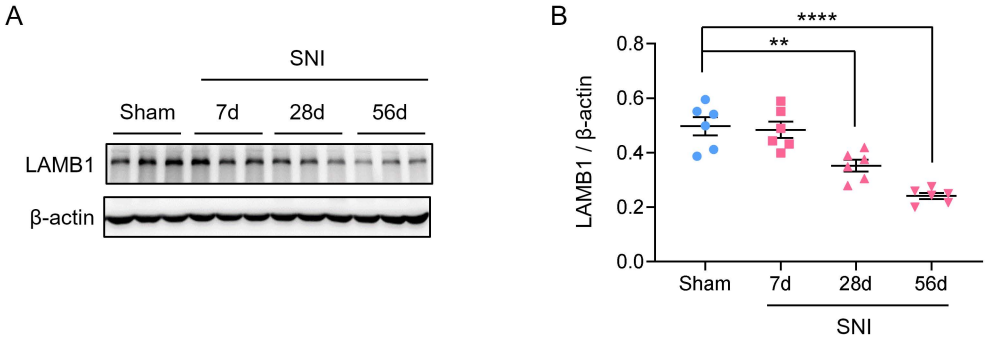

Contralateral
A
Sham
Scramble
shLamb1
Mechanical response frequency (%)
Force (g)
0.008
0.02
0.04
0.07
0.16
0.40
0.60
1.00
1.40
2.00
PWMT (g)
B
SNI
**
C
PWTL (s)
Sham
SNI
EPM
D
****
Time in open arm (s)
E
Total distance (cm)

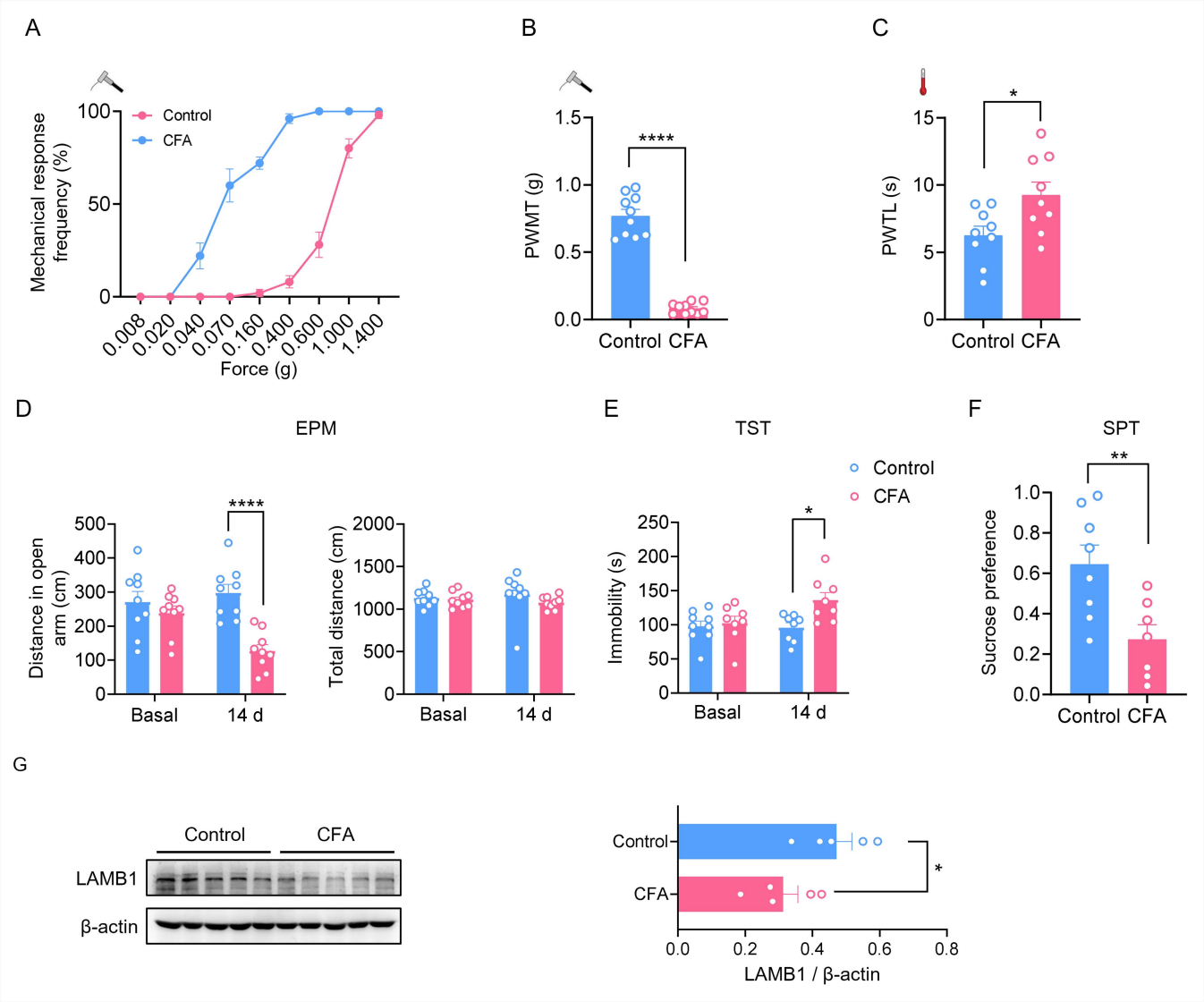

A
U6
shLamb1
CMV
EGFP
Days
0
7
63
70
91
98
Basal behavioral test (Pain threshold, OFT, EPM, TST)
SNI
Behavioral test (Pain threshold, EPM, TST, SPT)
Virus injection
Behavioral test (Pain threshold, EPM, TST, SPT)
Golgi staining
B
Sham+Scramble
Sham+shLamb1
SNI+Scramble
SNI+shLamb1
Stubby
Mushroom
Long thin
Filopodia
C
Density (numbers / 10 μm)
Sham
SNI
D
Scramble
shLamb1
Length (μm)
Sham
SNI
E
Stubby
Mushroom
Long thin
Filopodia
Density (numbers / 10 μm)
****
****
**
*
*
*
Sham
SNI
Scramble
shLamb1


A
AP amplitude (mV)
150
100
50
0
Scramble
shLamb1
B
AP threshold (mV)
0
-20
-40
-60
-80
Scramble
shLamb1
C
AP half-width (ms)
8
6
4
2
0
Scramble
shLamb1
D
AP AHP (mV)
25
20
15
10
5
0
-5
Scramble
shLamb1


Contralateral
A
SNI
Mechanical reponse frequency (%)
Veh
Pyr
Force (g)
B
SNI
PWMT (g)
C
SNI
PWTL (s)
EPM
D
Time in open arm (s)
E
Total distance (cm)
F
shItgb1
Pyr
ITGB1
β-actin
ITGB1 / β-actin
Scramble
shItgb1
G
p-Src
Src
p-Src / Src
H
p-Cofilin
Cofilin
p-Cofilin / Cofilin


A
OFT
Total distance (cm)
8000
6000
4000
2000
0
Ctrl
CORT
B
EPM
Total distance (cm)
1500
1000
500
0
Ctrl
CORT
C
OFT
Total distance (cm)
6000
4000
2000
0
Ctrl
CRS
D
EPM
Total distance (cm)
1500
1000
500
0
Ctrl
CRS


A
SNI
Sham
7d
28d
56d
LAMB1
β-actin
B
****
**
LAMB1 / β-actin
0.8
0.6
0.4
0.2
0.0
Sham
7d
28d
56d
SNI


A
Mechanical response frequency (%)
100
50
0
Control
CFA
0.008
0.020
0.040
0.070
0.160
0.400
0.600
1.000
1.400
Force (g)
B
PWMT (g)
1.5
1.0
0.5
0.0
****
Control CFA
C
PWTL (s)
15
10
5
0
*
Control CFA
D
EPM
Distance in open arm (cm)
500
400
300
200
100
0
****
Basal
14 d
Total distance (cm)
2000
1500
1000
500
0
Basal
14 d
E
TST
Control
CFA
Immobility (s)
250
200
150
100
50
0
*
Basal
14 d
F
SPT
Sucrose preference
1.0
0.8
0.6
0.4
0.2
0.0
**
Control CFA
G
Control
CFA
LAMB1
β-actin
Control
CFA
*
0.0
0.2
0.4
0.6
0.8
LAMB1 / β-actin