

Supplemental Figures and Figure Legends

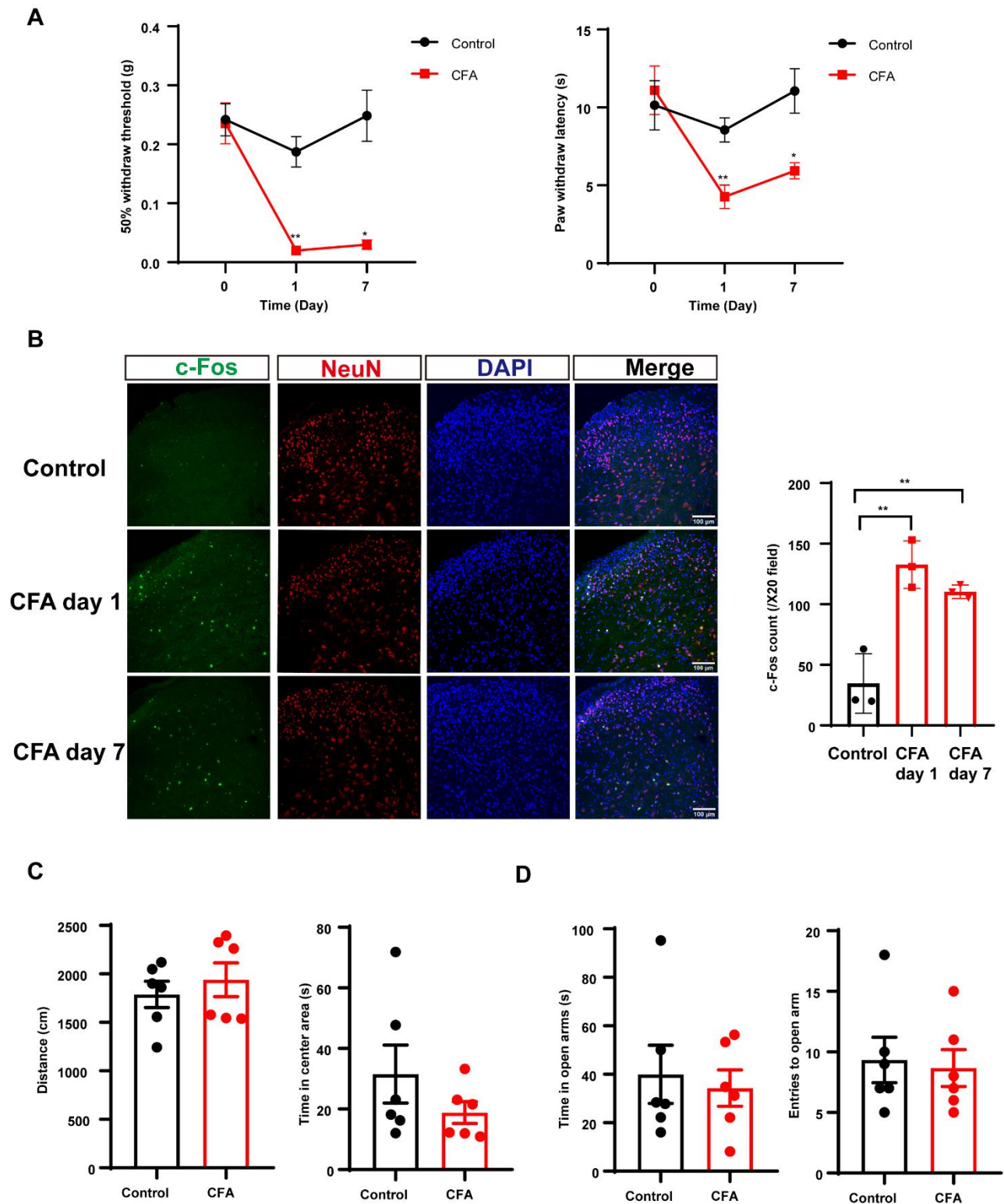
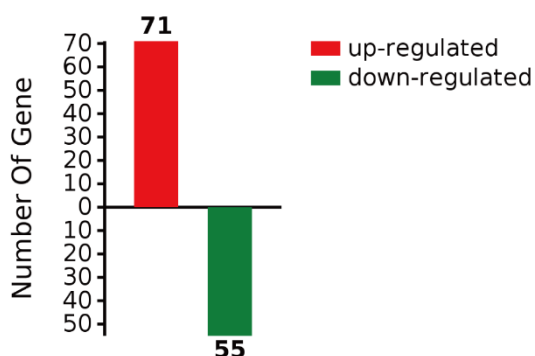


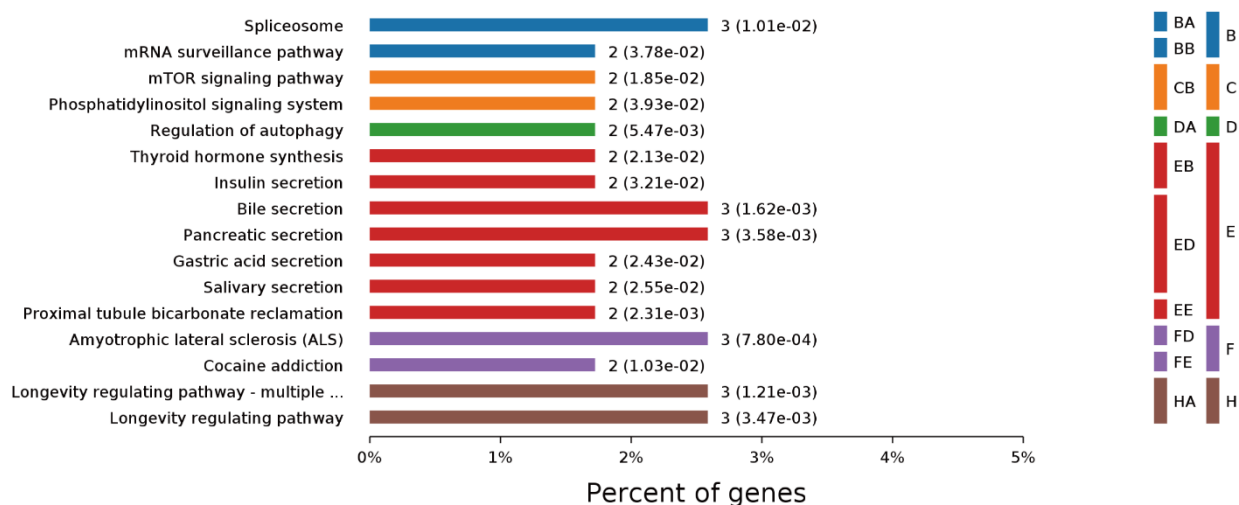
Fig. S1 Complete Freund's adjuvant (CFA)-induced inflammatory pain is transmitted into L4–6. **A** Mechanical and thermal pain before CFA injection (day0) and days 1 and 7 following CFA injection.

($n = 6$ per group, $*P < 0.05$, $**P < 0.01$, two-way ANOVA with repeated measures followed by Sidak's multiple comparisons test). **B** c-Fos (green) coimmunostained with Neuronal Nuclei (NeuN; a neuronal marker, green). Blue, DAPI staining. ($n = 3$ per group, $**P < 0.01$, unpaired t test). **C** Total distance moved and time spent in the center area in the OFT ($n = 6$ per group, unpaired t test). **D** Time in open arm and entries into open arm in the EPM ($n = 6$ per group, unpaired t test).

A



B



B : Genetic Information Processing
 C : Environmental Information Processing
 D : Cellular Processes
 E : Organismal Systems
 F : Human Diseases
 H : Other and unknown

BA : Transcription
 BB : Translation
 CB : Signal transduction
 DA : Transport and catabolism
 EB : Endocrine system
 ED : Digestive system
 EE : Excretory system
 FD : Neurodegenerative diseases
 FE : Substance dependence
 HA : Other and unknown

C

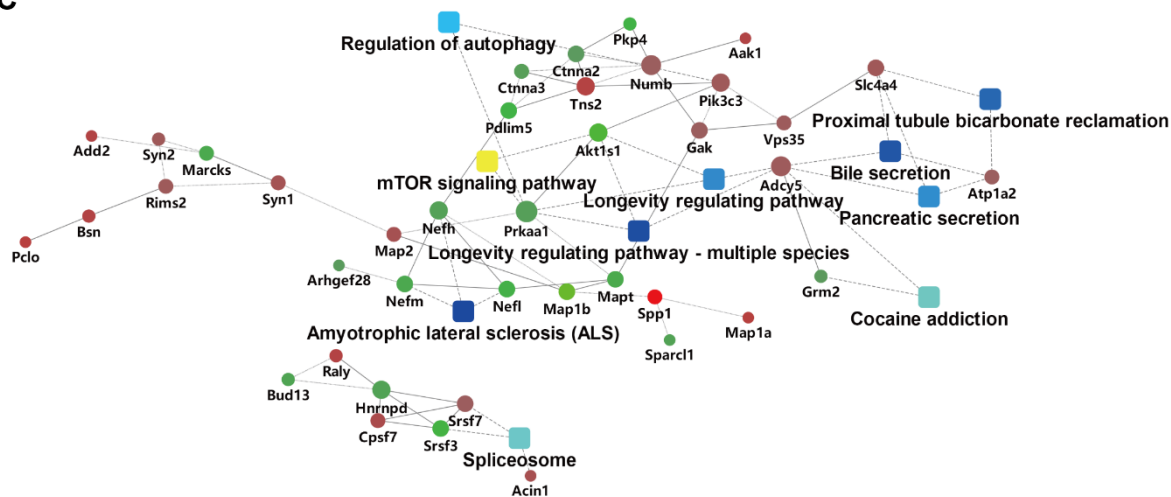


Fig.S2 A Differentially expressed genes (DEGs) corresponding to phosphopeptides. **B** KEGG pathway analysis of DEGs. **C** Protein-protein interaction networks of DEGs.

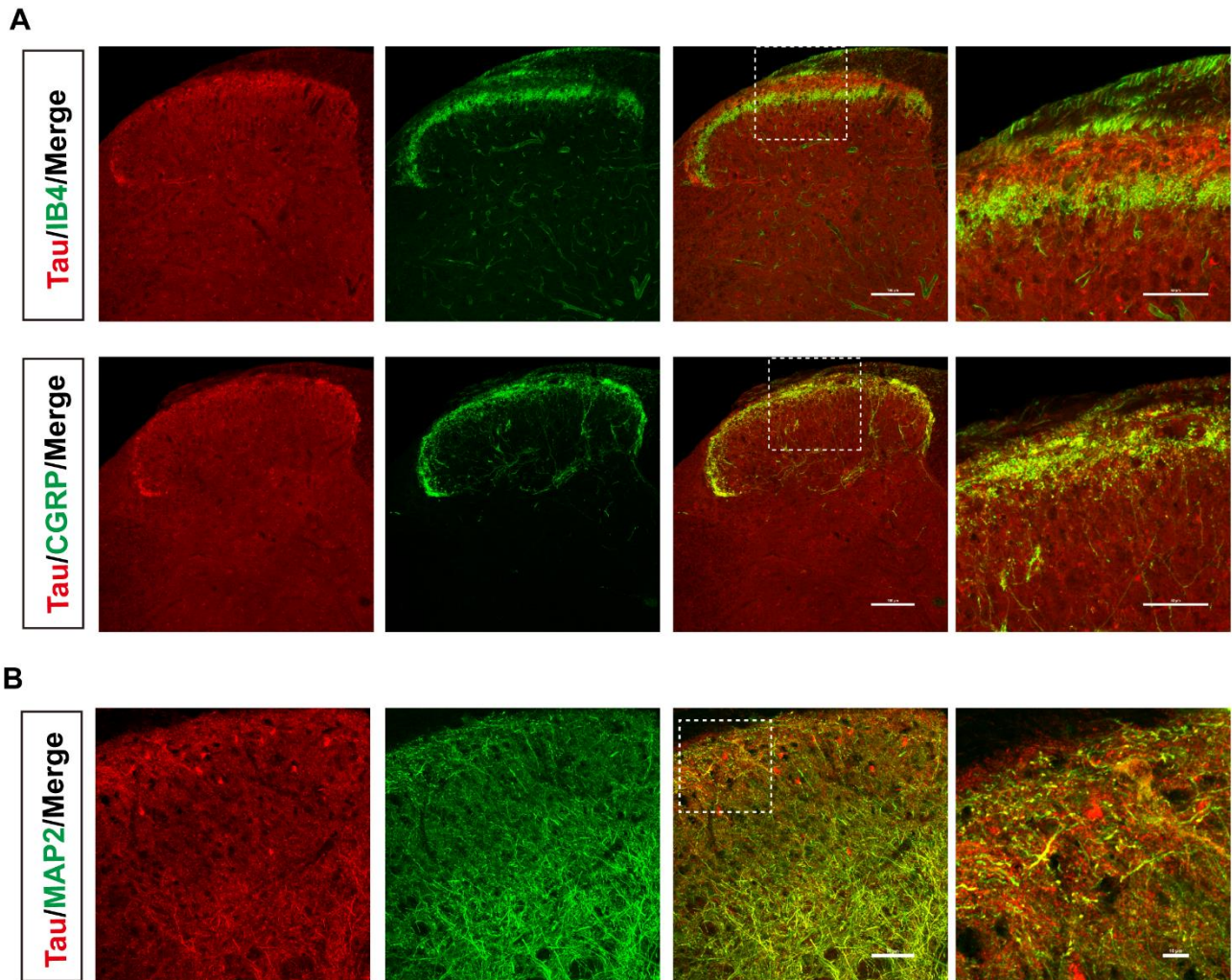


Fig. S3 A Representative images displaying the colocalization of Tau (red) with either IB4 or CGRP (green) in the dorsal cord on day 7 post-CFA injection. Scale bar, 50 μ m and 100 μ m. **B** Representative images displaying the colocalization of Tau (red) with MAP2 (green) in the dorsal cord on day 7 following CFA injection. Scale bars, 10 μ m and 50 μ m.

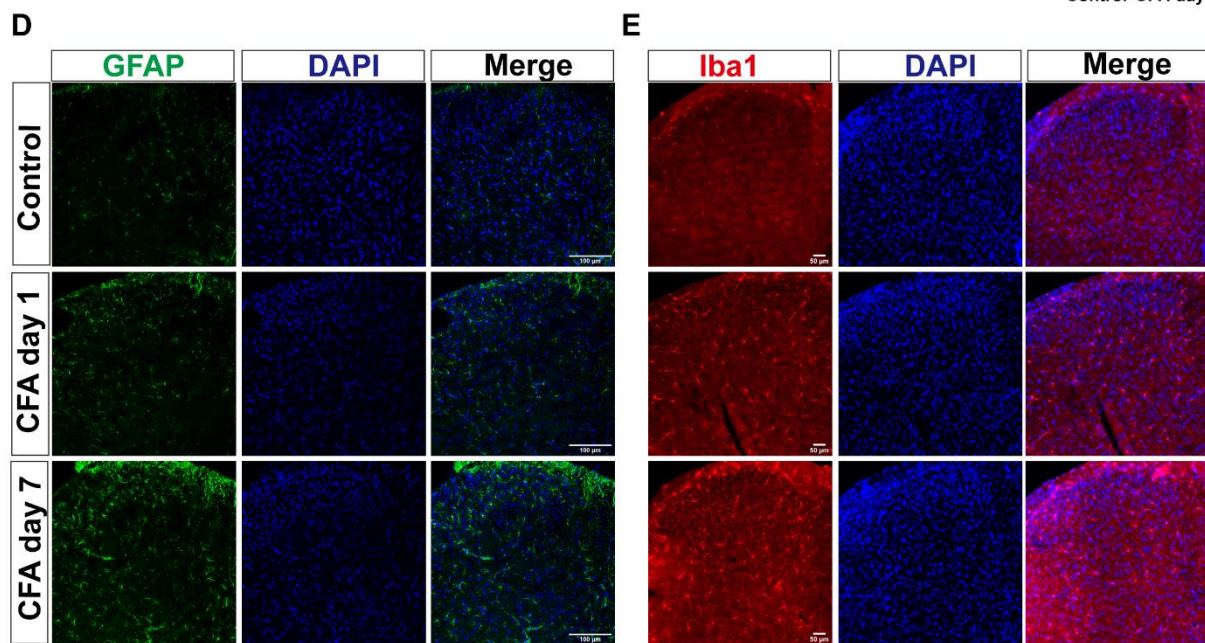
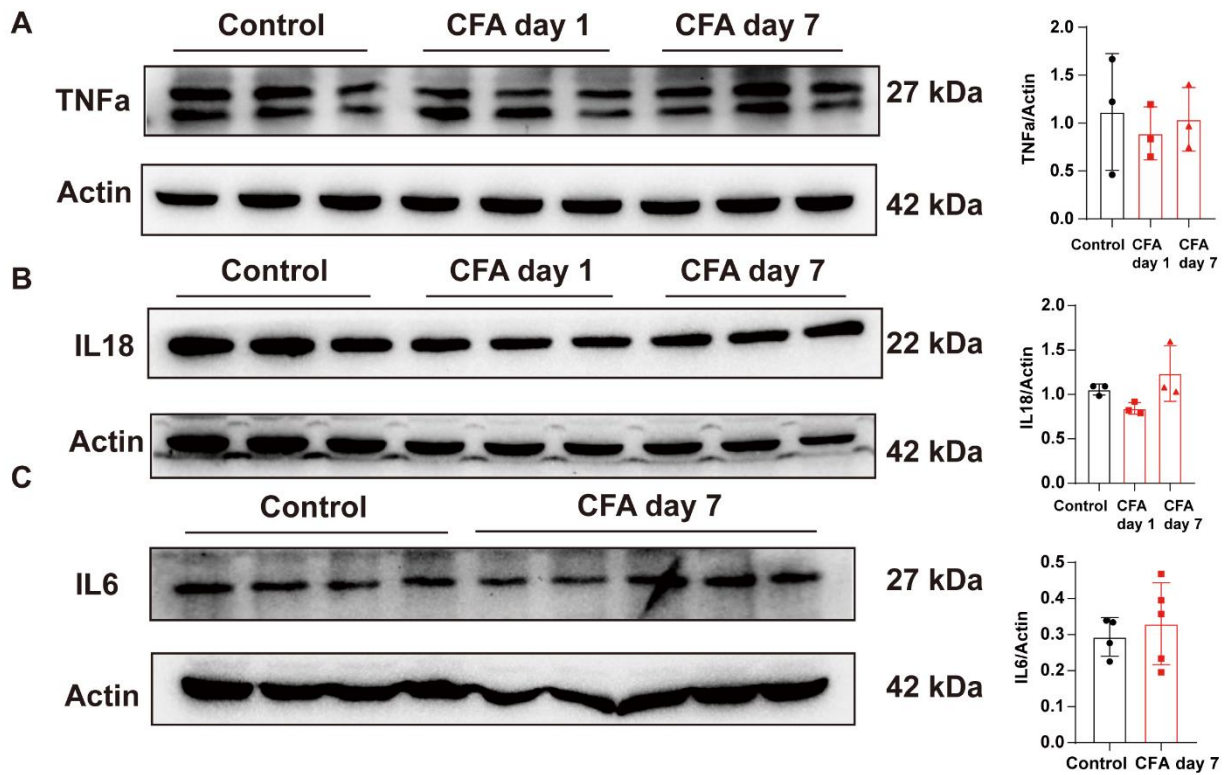


Fig. S4 A Western blots and analysis of the protein levels of TNFa in L4–6 in the control group and 1 day and 7 days after CFA injection, normalized to Actin ($n = 3$ per group, one-way ANOVA followed by Tukey's multiple comparisons test). **B** Western blot analysis Protein levels of IL18 of L4–6 in the control group and days 1 and 7 after CFA injection, normalized to Actin ($n = 3$ per group, one-way ANOVA followed by Tukey's multiple comparisons test). **C** Protein levels of IL6 of L4–6 in the control group and day 7 after the CFA injection ($n = 4$ for the control group, $n = 5$ for the CFA day 7 group, unpaired t test). **D** Immunofluorescence staining of GFAP (green) in the dorsal cord of L4–6 ($n = 3$ from 3 mice per group, $*P < 0.05$, one-way ANOVA followed by Tukey's multiple comparisons test). **E** Immunofluorescence staining of Iba1 (green) in the dorsal cord of L4–6. Blue, DAPI staining ($n = 3$ from 3 mice per group, $*P < 0.05$, one-way ANOVA followed by Tukey's multiple comparisons test). Scale bars, 50 μm and 100 μm .

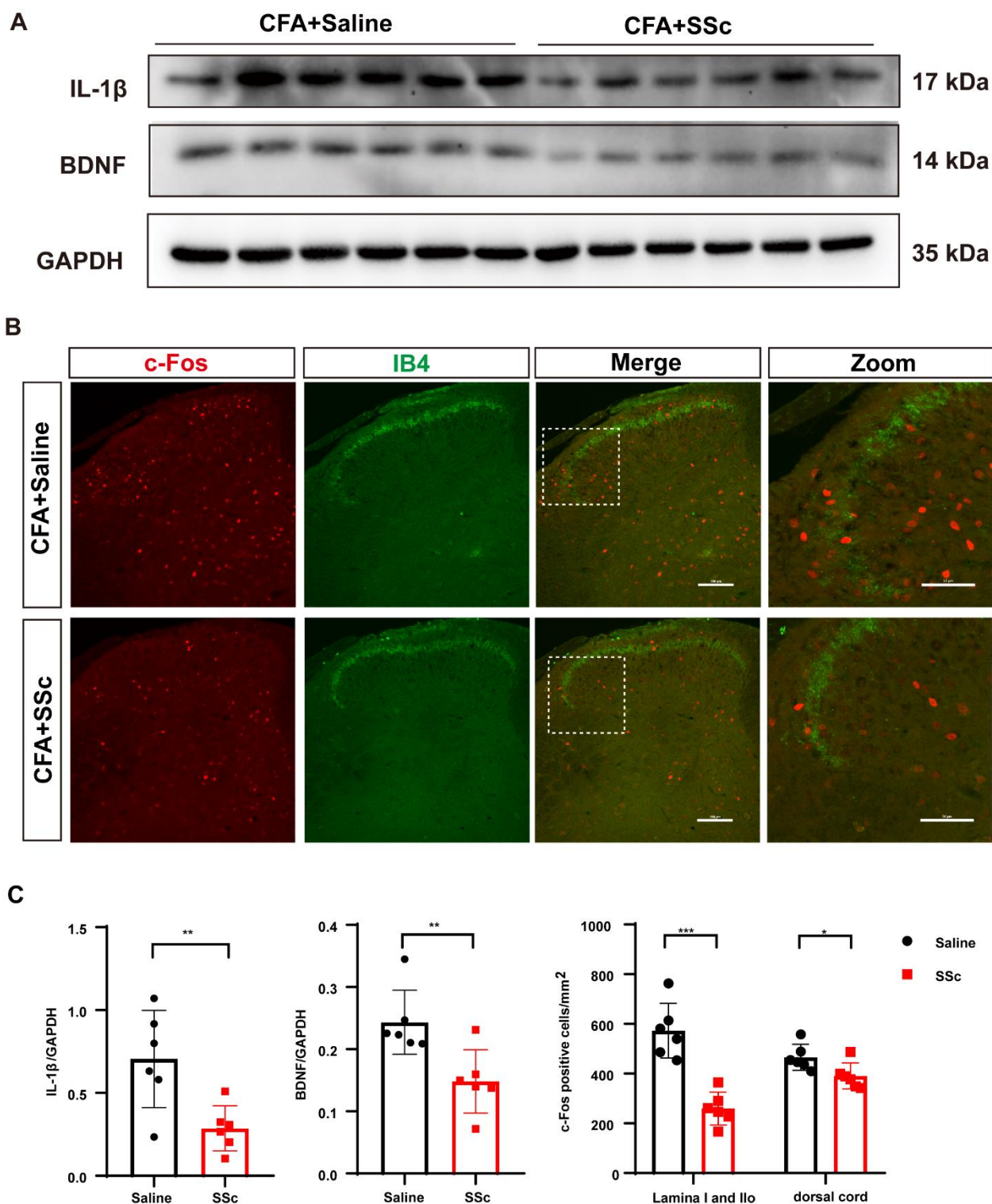


Fig. S5 A Protein levels of IL-1 β and BDNF of L4–6 in the CFA + saline group and CFA + SSc group.

Western blot analysis, normalized to GAPDH ($n = 6$ per group, unpaired t test). **B** Representative

immunofluorescence image showing the colocalization of c-Fos and CGRP in the dorsal cord in the

CFA + Saline and CFA+ SSc groups ($n = 6$ per group, $*P < 0.05$, $***P < 0.001$, unpaired t -test). **C**

Statistical analysis corresponding to the data presented in **A** and **B**. Scale bars, 50 μm and 100 μm .

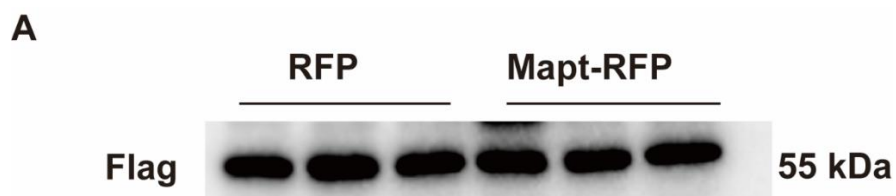


Fig. S6 A Western blots of protein expression of the fusion protein Flag in the AAV-CMV-RFP group and the AAV-CMV-Mapt-RFP group.