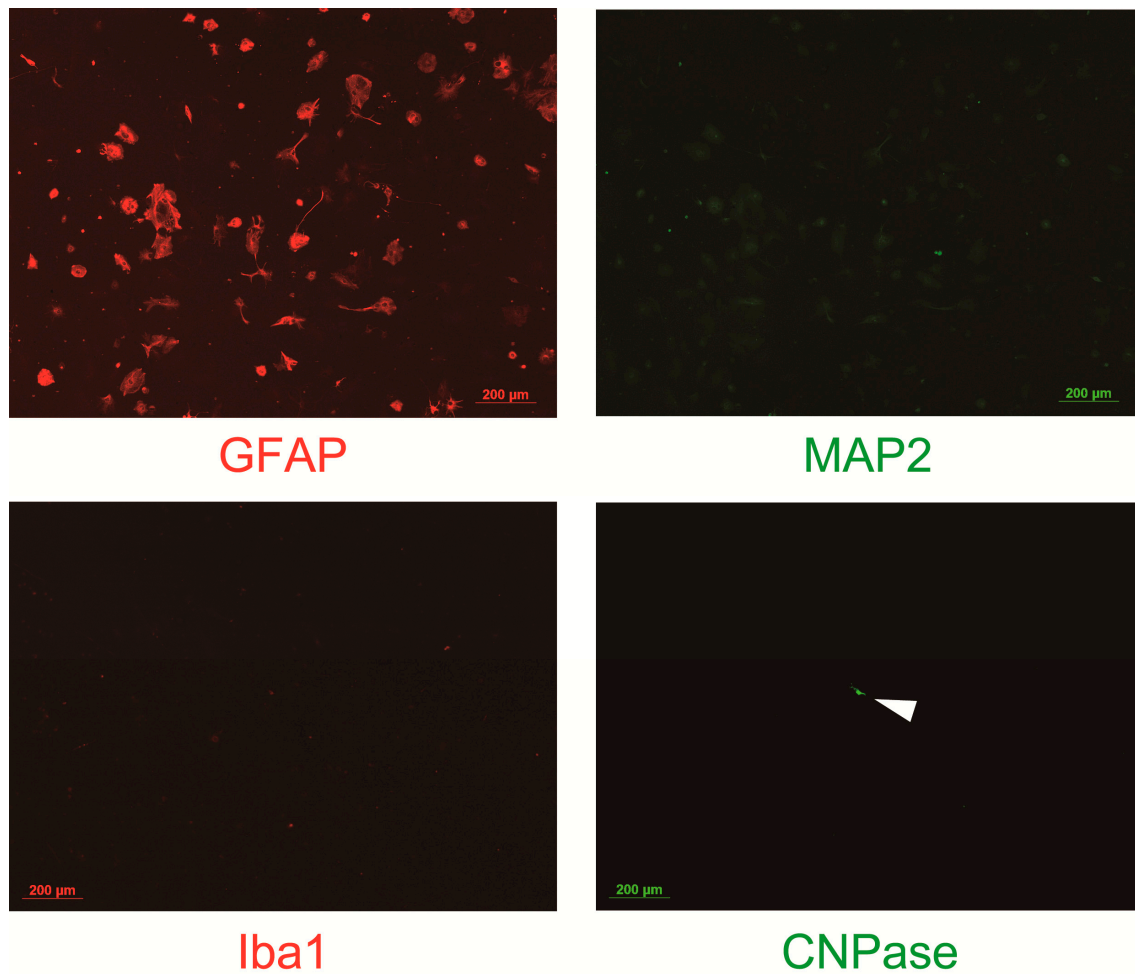


## *Supplementary Materials*

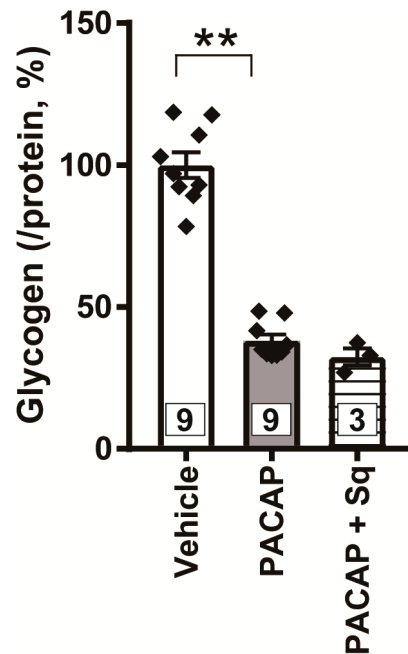
### **Spinal Astrocyte-Neuron Lactate Shuttle Contributes to the Pituitary Adenylate Cyclase-Activating Polypeptide/PAC1 Receptor-Induced Nociceptive Behaviors in Mice**



**Figure S1.** Representative immunofluorescent images of the cultured spinal astrocytes.

The purity of astrocytes was examined by staining with primary antibodies against GFAP (an astrocyte marker), MAP2 (a neuron marker), Iba 1 (a microglia marker) and CNPase (an oligodendrocyte marker). Each marker was visualized by an appropriate fluorescent

dye-conjugated secondary antibody. Arrowhead represented an incidentally contaminated oligodendrocyte. Bar = 200  $\mu$ m.



**Figure S2.** PACAP/PAC1 receptor-evoked glycogenolysis might not be mediated by  $G_s$  protein/PKA pathway in the cultured spinal astrocytes. Cultured spinal astrocytes were pre-incubated with Sq22.536 (Sq, 100  $\mu$ M) for 30 min prior to PACAP (1 nM) exposure, and glycogen amounts contained in the astrocytes were measured 60 min after the PACAP exposure. \*\* $P < 0.01$  when compared with Vehicle. Statistical significance was evaluated by the Dunnett test. Exact sample sizes are indicated in the graphs.