



Supplementary information, Figure S1 (A) The distal end of sciatic nerve connected with DRG was incubated with a normal IgG for the indicated times. Immunostaining of DRGs was performed to detect the signals of retrograde-transported P2X₃ receptors. There was no signal detected when the normal IgG was used even at 12 h after culture. Scale bar, 30 μm. **(B)** The electrophysiological experiment showed that 10 μM α, β-MeATP can induce inward currents through both P2X₃-Myc-GFP and mRFP-P2X₃-Myc in HEK293 cells. **(C)** Time-lapse image

series showed the retrograde transport (arrows) of TrkA receptors in cultured DRG neuron axons. The corresponding kymograph confirmed the retrograde transport (arrows) of TrkA receptor in axons of DRG neurons. The mean and active retrograde velocity profiles were assembled with 210 puncta. n = 3. Scale bar, 5 μ m.