

Figure S1. Functional efficacy of AAV2/9-hSyn-fDIO-hM4Di-mCherry (A) Bath application of CNO (10 μM) induced hyperpolarization of a hM4Di-mCherry neuron in the spinal cord. (B) Summary graph showing the resting membrane potential (RMP) before and after CNO application (n = 3 from 2 mice).

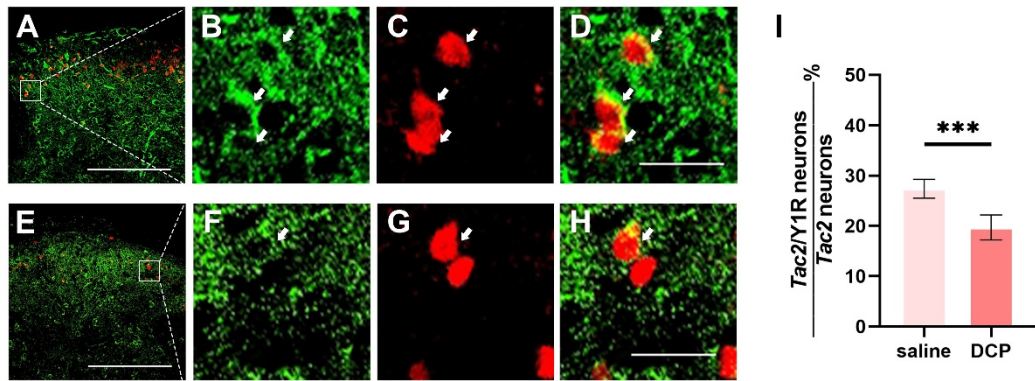


Figure S2. Y1R expression on *Tac2* neurons in lumbar spinal cord decreases during chronic itch. (A-H) Expression of Y1R in *Tac2*-tdTomato neurons in the saline and DCP groups by immunostaining. Arrows indicate double-labeled neurons. Scale bars, 200 μm in (A) and (E), 20 μm in (B-D) and (F-H). (I) The ratio of *Tac2* and Y1R double positive neurons in *Tac2* neurons in saline group and DCP group. $n_{\text{saline}} = 539$ neurons, $n_{\text{DCP}} = 494$ neurons; $p = 0.0009$, Chi-square test.