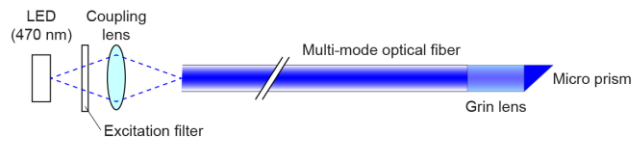


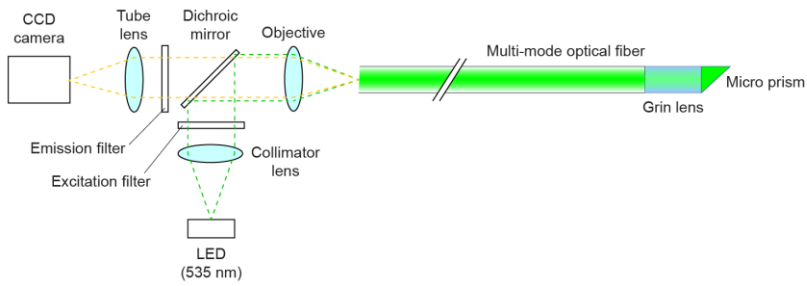
File Name: Supplementary Information  
Description: Supplementary Figures.

## Supplementary Figure 1

**A**

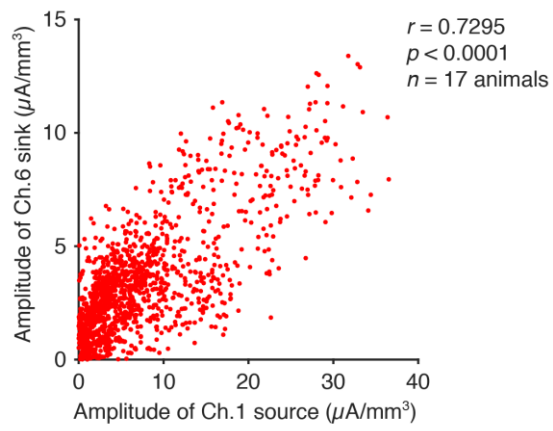


**B**



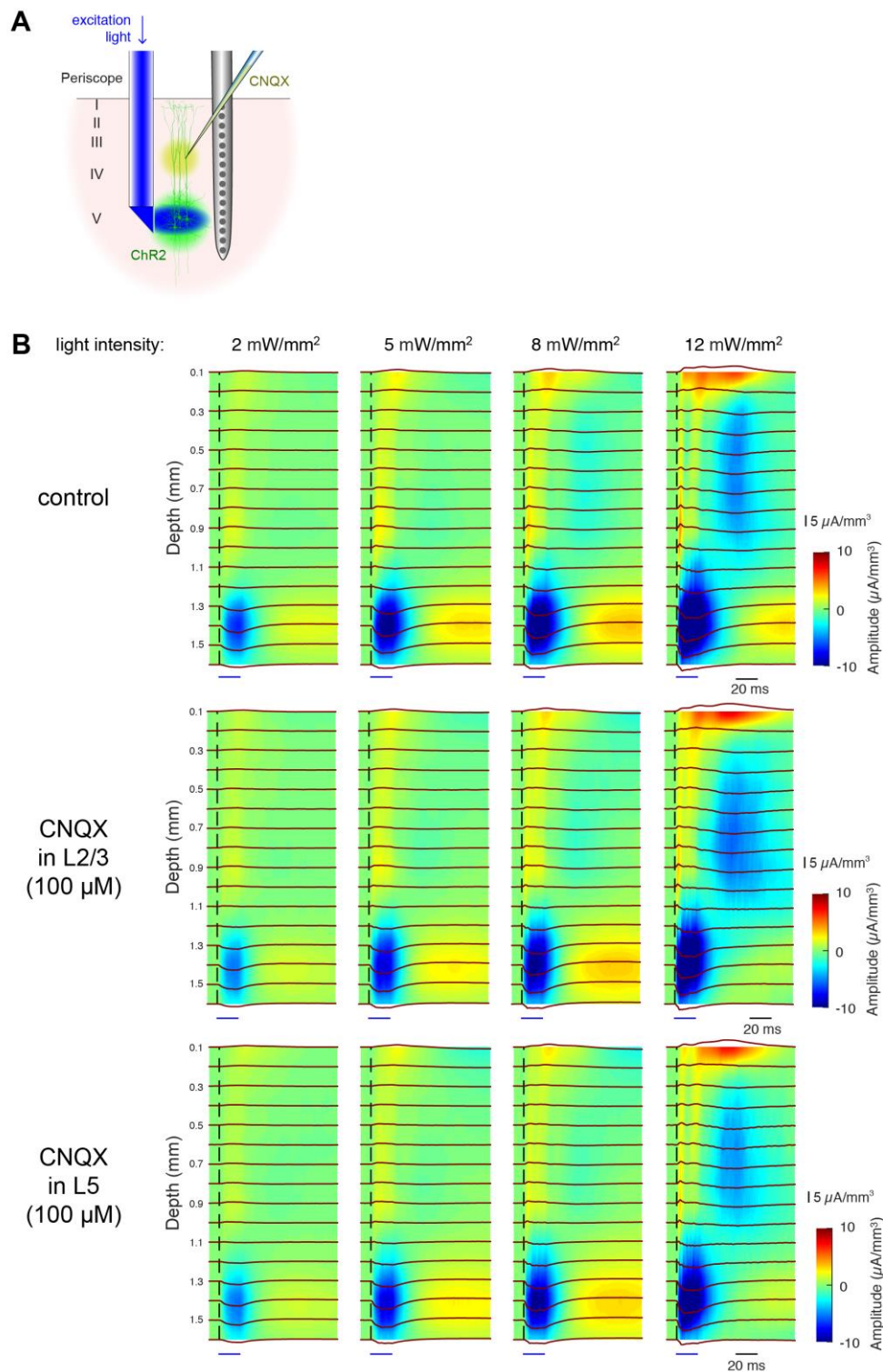
**The micro-periscope setup for stimulation (A) and for Ca<sup>2+</sup> fluorescence imaging (B).**

## Supplementary Figure 2



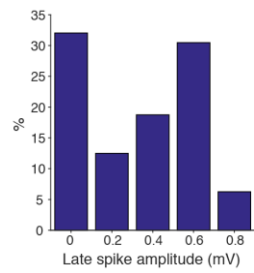
**Strong correlation between middle layer sink (at channel 6) and superficial layer source (at channel 1).**

### Supplementary Figure 3



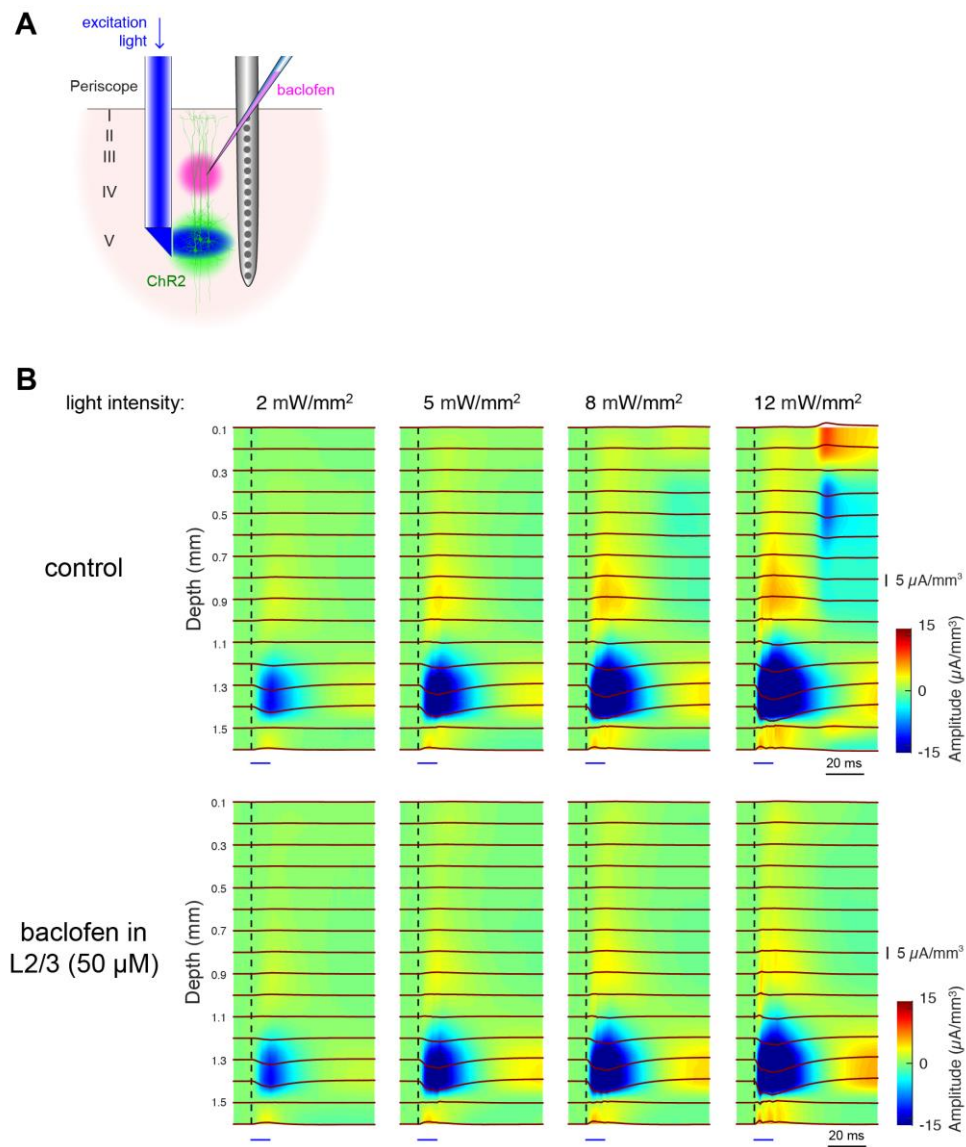
**Optogenetically-evoked late sink was not impaired by local injection of 100 μM CNQX in L2/3 and L5. (A)** Schematic diagram of the experiment. **(B)** CSD profiles in control (top) and drug conditions with different light intensities indicated at the top.

#### Supplementary Figure 4



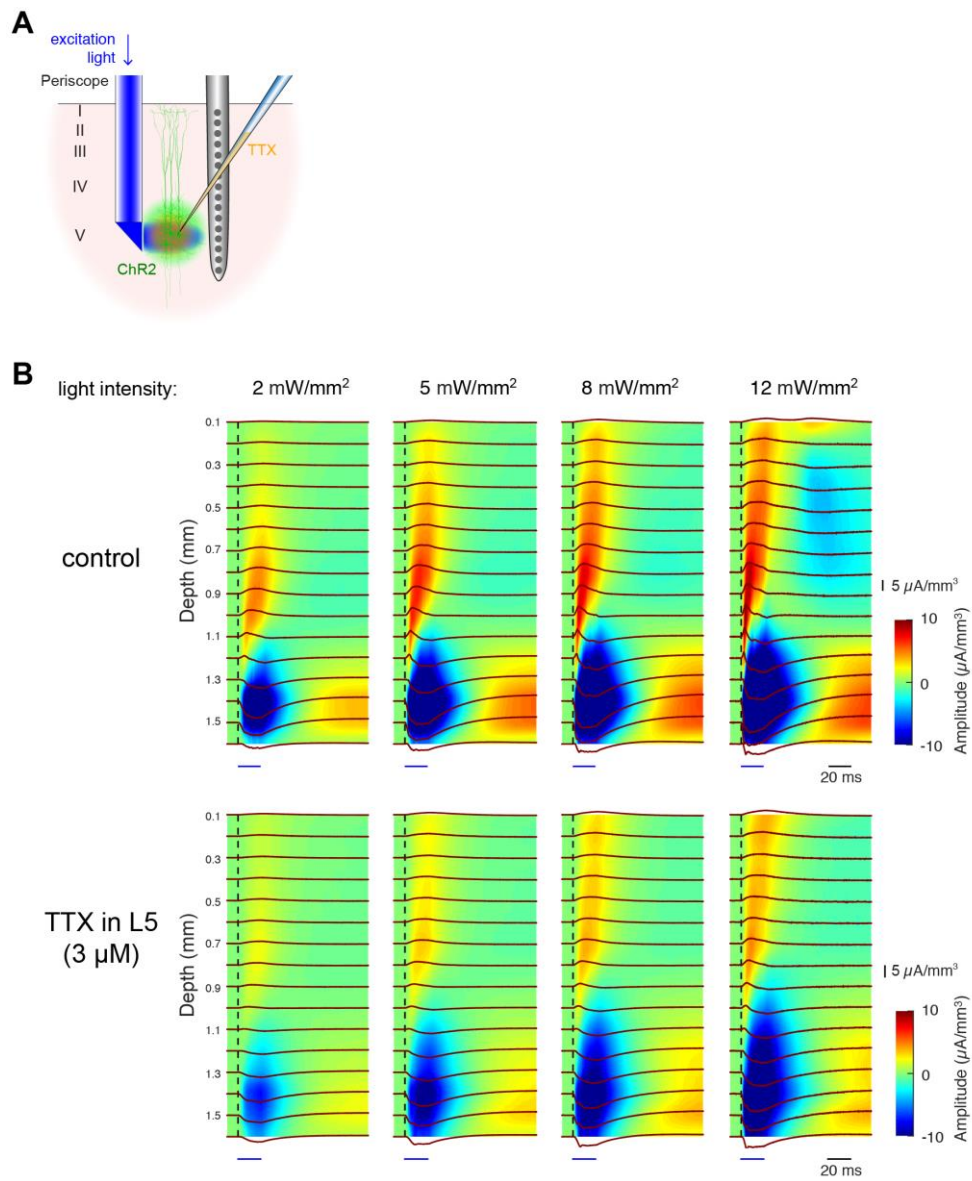
**Bimodal distribution of late-spike amplitudes.** Averaged over 100 measurements from one animal with the highest light intensity ( $12 \text{ mW/mm}^2$ ). Data from all animals ( $n = 17$ ) show a bimodal distribution while the peak amplitude of detectable spikes and the fraction of undetectable spikes vary. See Fig. 1G for the distribution of detectable spike amplitudes.

## Supplementary Figure 5



**Optogenetically-evoked late sink was abolished by local injection of 50  $\mu\text{M}$  baclofen in L2/3.** (A) Schematic diagram of the experiment. (B) CSD profiles in control (top) and drug conditions (bottom) with different light intensities indicated at the top.

## Supplementary Figure 6



**Optogenetically-evoked late sink was abolished by local injection of 3  $\mu\text{M}$  TTX in L5.** (A) Schematic diagram of the experiment. (B) CSD profiles in control (top) and drug conditions (bottom) with different light intensities indicated at the top.

