

Supporting Information

Viaene et al. 10.1073/pnas.1114828108

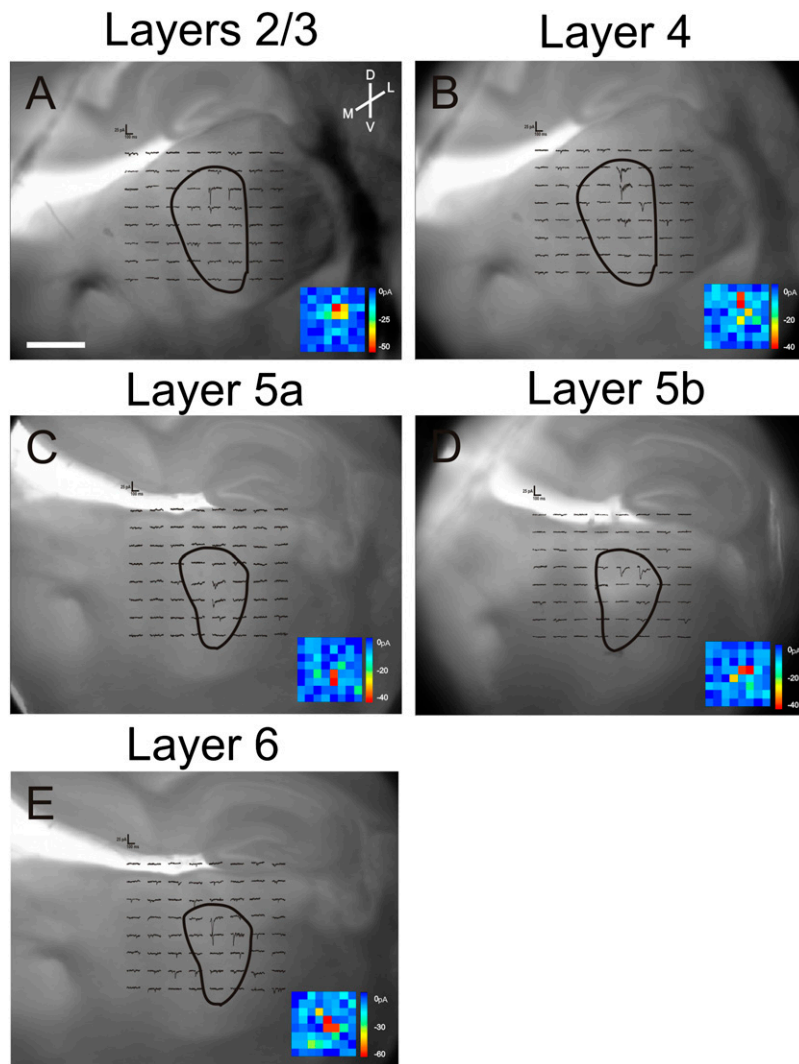


Fig. S1. Slice connectivity confirmed using photo uncaging of glutamate. (A–E) Examples of inward currents recorded from neurons in layers 2/3 (A), 4 (B), 5a (C), 5b (D), and 6 (E) of S1 while photo uncaging glutamate over POm (outlined in black). (Insets) False-color maps of location and magnitude of inward currents. Each pixel corresponds to a locus of uncaging as seen in the main figure. M, medial; L, lateral; D, dorsal; V, ventral. (Scale bar in A, 500 μm , and the same scale bar applies to B–E.)

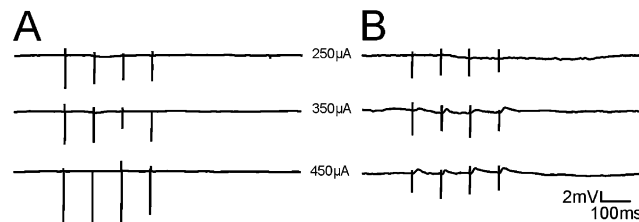


Fig. S2. Example recordings from VPM neurons following POm stimulation. (A) Example of unresponsive neuron. Eight of 10 VPM neurons did not respond to POm stimulation across all stimulation intensities tested. (B) Example of a responsive neuron. Two of 10 VPM neurons responded to POm stimulation at the highest stimulation intensities tested. Both responsive neurons exhibited EPSPs of <1.5 mV at the highest stimulation intensities tested. No neurons exhibited spiking following POm stimulation. All traces represent the average of 10 sweeps. (Scale bar in B applies to A.)

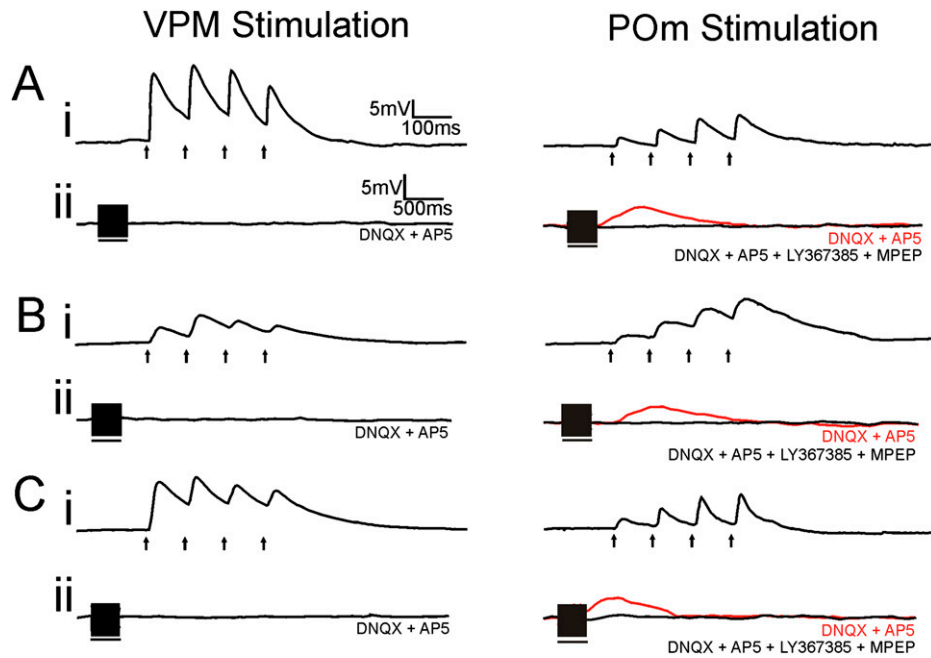


Fig. S3. Examples of dual inputs from VPM and POm onto S1 neurons. (A, *i*) Example of Class 1A response following VPM stimulation and Class 2 response following POm stimulation in a layer 4 neuron. (A, *ii*) Absence of response in layer 4 neuron following high-frequency stimulation of VPM in the presence of ionotropic receptor antagonists (Left column) and response to high-frequency stimulation of POm in the presence of ionotropic antagonists and in the presence of ionotropic and group I metabotropic glutamate receptor antagonists (Right column). (B, *i*) Example of Class 1C response following VPM stimulation and Class 2 response following POm stimulation in a layer 5a neuron. (B, *ii*) Absence of response in layer 5a neuron following high-frequency stimulation of VPM in the presence of ionotropic receptor antagonists (Left column) and response to high-frequency stimulation of POm in the presence of ionotropic antagonists and in the presence of ionotropic and group I metabotropic glutamate receptor antagonists (Right column). (C, *i*) Example of Class 1A response following VPM stimulation and Class 2 response following POm stimulation in a layer 5b neuron. (C, *ii*) Absence of response in layer 5b neuron following high-frequency stimulation of VPM in the presence of ionotropic receptor antagonists (Left column), and response to high-frequency stimulation of POm in the presence of ionotropic antagonists and in the presence of ionotropic and group I metabotropic glutamate receptor antagonists (Right column). Arrows represent the timing of stimulation for all low-frequency stimulation trials. Black bars represent the duration of stimulation in high-frequency stimulation trials. With the exception of high-frequency stimulation trials, all traces represent the average of 10 sweeps. All 10-Hz stimulation of VPM and POm was performed at 150 μ A and all HFS of VPM and POm was performed at 200 μ A. (Scale bar in A, *i* applies to B, *i* and C, *i*; scale bar in A, *ii* applies to B, *ii* and C, *ii*.)