Methods S2. Synaptic and morphological parameters in model of L1 microcircuit, Related to STAR Methods Numerical model of L1 dynamics. (**A**) Characteristic morphology and spiking patterns of L1 interneurons. Electrophysiology traces adapted from Ref (*13*) and neuronal morphologies from Ref (*9*). Manual patch clamp recordings were acquired near rheobase. The eNGC cells form a mutually inhibitory network within L1. Downward-projecting SBC-like neurons receive inhibition from the eNGC network but do not have outputs within L1. (**B**) Model for synaptic inhibition. A simulated eNGC cell was stimulated to spike once. The simulated postsynaptic cells were optogenetically depolarized to -55 mV to introduce a driving force for Cl⁻ entry. The time-course and amplitudes of the postsynaptic inhibitory conductances were adjusted to match experimental IPSPs of -1.5 to -2 mV. (**C**) Length-scale of connectivity. Data from (*9*). Synaptic weights were set by Gaussian distributions fit to the experimental data. The length-scale of each synaptic connection was set to the sum of the widths of the axonal and dendritic arbors.