

A					Population				
Name		Description			Value				
N		number of cells			10000				
R		population radius			1000 μm				
z_k and layer boundaries		layer boundaries and soma positions (in units of μm in relation to cortical surface at 0 μm), derived from Stepanyants et al., Cereb Cortex 2008, 18(1):13–28:							
		layer	upper boundary	soma depth z_k		lower boundary			
		L1	0	-		-81.6			
		L2/3	-81.6	-334.3		-587.1			
		L4	-587.1	-754.6		-922.2			
		L5	-922.2	-1021.1 ⁽¹⁾		-1170.0			
		L6	-1170.0	-		-1491.7			
B					Neuron				
Name		Description			Value				
R_m		specific membrane resistance			30 $\text{k}\Omega\cdot\text{cm}^2$				
R_a		specific axial resistance			150 $\Omega\cdot\text{cm}$				
C_m		specific membrane capacitance			1.0 $\mu\text{F}/\text{cm}^2$				
C					Synapse				
Name		Description			Value				
τ		synaptic time constant			0.1 ms				
I_e		excitatory current amplitude			50 pA				
D					Input				
Name		Description			Value				
n_{syn}		number of synapses			1000				
r_{syn}		synaptic input rate			5 spikes/s				
C_{in}		pairwise input correlation between cells			{0.01,0.1,1.0}				
E					Measurements				
Name		Description			Value				
σ_{cond}		extracellular conductivity			0.3 S/m				
F					Simulation				
Name		Description			Value				
dt_{sim}		time resolution in simulation			1/64 ms				
dt_{data}		time resolution of data			1.0 ms				
T		simulation time			either 10200 ms or 1200 ms (off-center or outside of soma layer) ⁽²⁾				

⁽¹⁾ the somata of the L5 cells were adjusted 25 μm upwards compared to midpoint of L5 so that apical dendrites reach L1

⁽²⁾ the first 200 ms were discarded to avoid upstart effects