A	Model summary
Population	cylindrical homogeneous cortical populations
Neuron	passive multi-compartment neuron models
Synapse	current based, alpha-shaped postsynaptic current with short time constant
Input	uncorrelated/correlated Poisson spike train input
Measurements	simulated LFP

B	Population
Type	separate homogeneous populations consisting of N neurons *Population types*: L3 pyramidal cell population, L4 stellate cell population, L5 pyramidal cell population
Geometry	cylinder of radius R ('cortical column') subdivided into layers (see Table S3A)
Cell positions	- random soma positions on a disc at soma depth z_k in vertical midpoint of corresponding cell type k, soma density $\rho = N/(\pi R^2)$ - random cell rotations along vertical cylindrical axis
Parameters	N, R, z_k, layer boundaries

C	Neuron
Type	passive multi-compartment neuron models with reconstructed morphologies
Morphology	- L3 pyramidal cell - L4 stellate cell - L5 pyramidal cell from [71], downloaded from ModelDB, accession number 2488 axon compartments were removed
Neuron dynamics	non-spiking neurons with passive membrane with specific membrane resistance R_m, specific axial resistance R_a, and specific membrane capacitance C_m
Compartments	segments length shorter than one tenth of electrotonic length for 100 Hz resulting in 549 compartments for the L3 cell, 343 compartments for the L4 cell and 1072 compartments for the L5 cell (for chosen passive parameters and morphologies, see Table S3)
Parameters	R_m, R_a, C_m