



EPSP and IPSP inputs

The model consists of two arrays of inputs. One array is the EPSP and the other is IPSP inputs. The inputs are an array of 1s and 0s where 1s represent a presynaptic action potential. Each position of the array represents 1 millisecond. The inputs are not simulated action potentials but a 1 millisecond voltage clamp. The spiking model parameters have been adjusted so that a 1 millisecond voltage clamp will be similar to one spike. However, multiple 1s will result in a sustained voltage clamp rather than spikes from multiple cells. To simulate the fact that IPSPs are typically closer to the soma and fewer IPSPs are required to offset EPSPs, the IPSP input is set to a stronger effect. One IPSP will cause the cell to not fire for several milliseconds even with multiple EPSPs.