

Supplement to “A Mathematical Model of Tripartite Synapse: Astrocyte Induced Synaptic Plasticity”

By

Shivendra Tewari and Kaushik Majumdar.

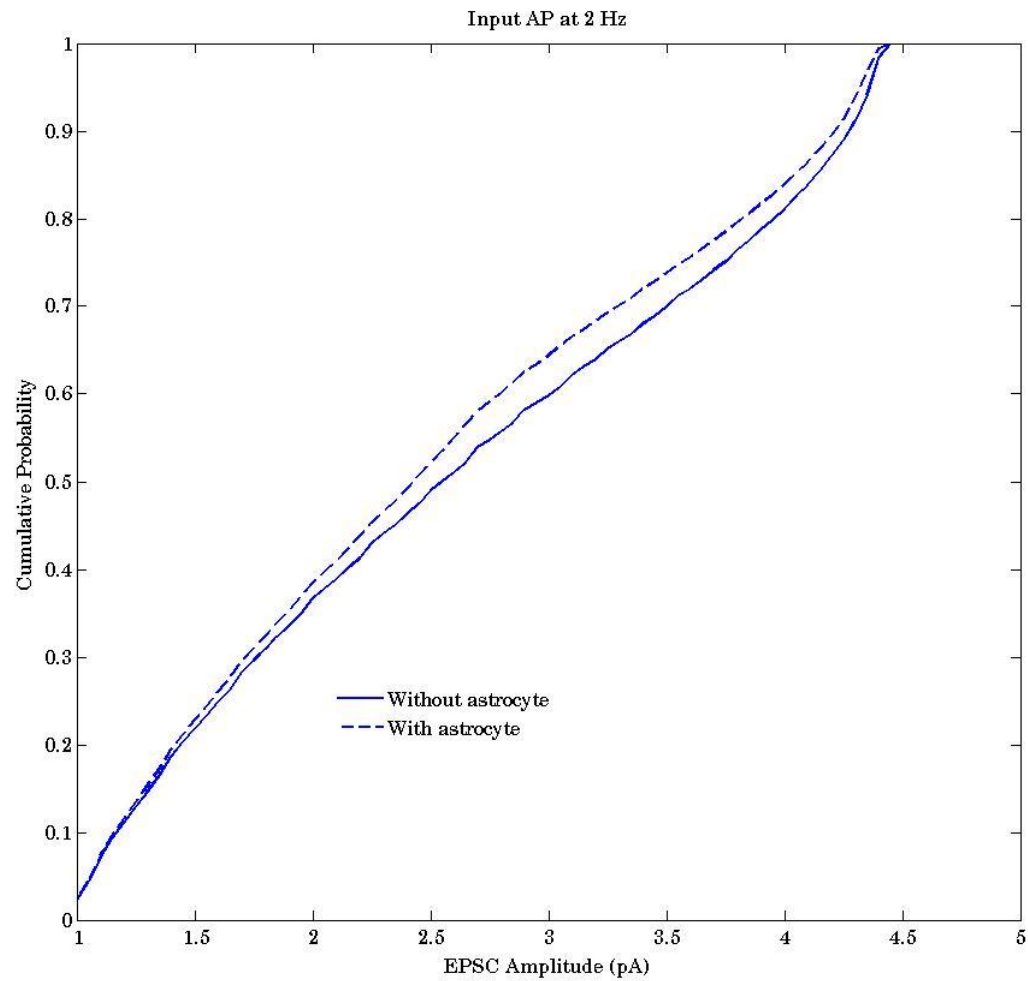


Figure 1. Cumulative probability of EPSC amplitudes in response to an input signal of 2 Hz following astrocyte-independent and astrocyte-dependent pathway of information processing. All the parameters are same as listed in Tables 2 – 7. Astrocyte-dependent curve shifts significantly upwards implying an increased probability of having an EPSC of amplitude between 1.5 to 4.5 pA.

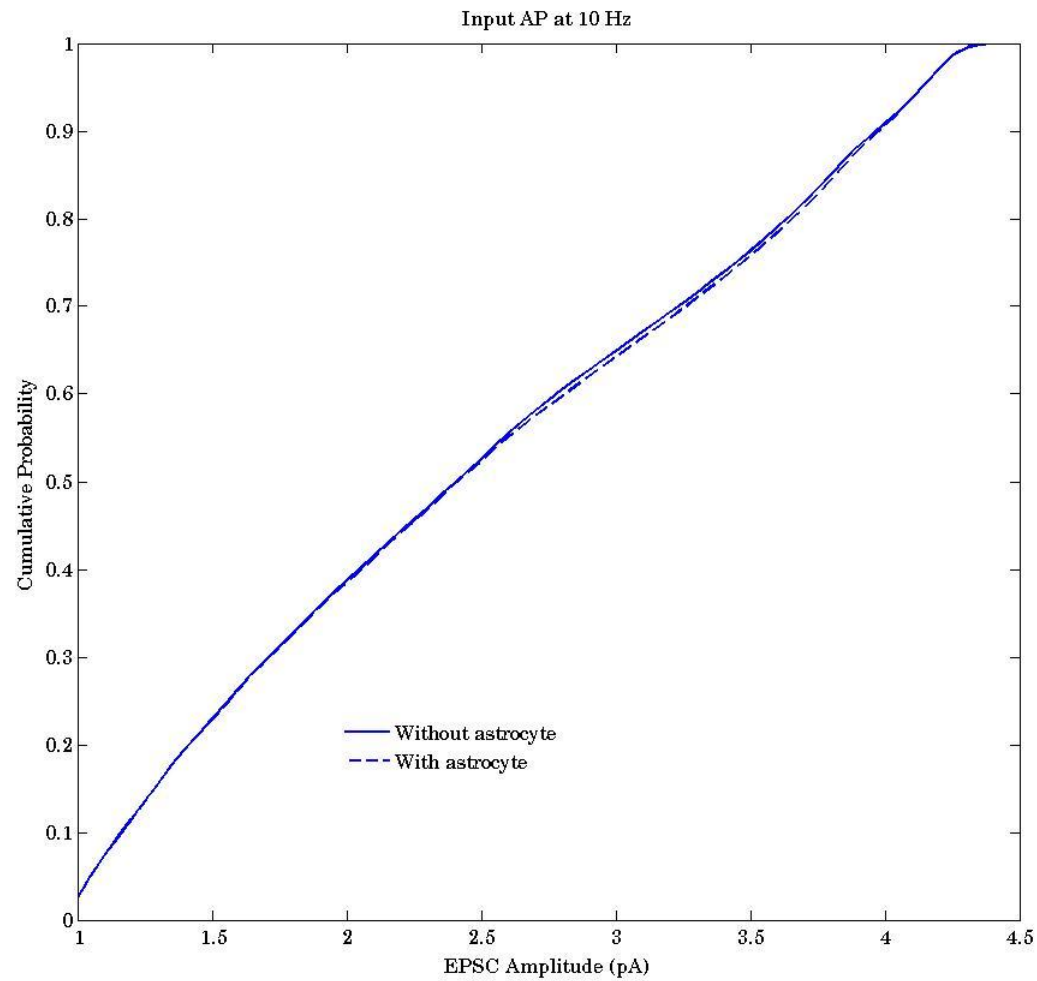


Figure 2. Cumulative probability of EPSC amplitudes in response to an input signal of 10 Hz following astrocyte-independent and astrocyte-dependent pathway of information processing. All the parameters are same as listed in Tables 2 – 7. In this case there is no significant difference between astrocyte-independent curve and astrocyte-dependent curve. On the contrary, the probability of having EPSC amplitude between 2.5 to 4 pA is slightly less when astrocyte is switched ON.