ATP-Induced Dynamics in Tripartite Synapses

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Abstract: We propose a mathematical model for the neurochemical processes in a tripartite synapse. Inferred from experiments, the model assumes that glutamate and ATP are released from astrocytes and have regulatory effects on the postsynaptic potentiation. Considering the delayed feedback mechanisms, our model provides additional insight into the role of ATP in the modulation of synaptic transmission.

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