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Poster Presentation

The Role of Ionotropic Glutamate Receptors in the Induction of LTP

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Abstract

Long-term potentiation (LTP) is a reflection of synaptic plasticity that has an important role in learning and memory. LTP is a long-lasting increase of synaptic activity due to enhancement of excitatory synaptic transmission after a high-frequency train of electrical stimulation. The role of α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) receptors in excitatory synaptic transmission and LTP formation uncovered over recent decades. The activity regulation of AMPA receptors (AMPARs) has a significant role in the LTP induction. AMPARs are homomeric or heteromeric receptors combined of four subunits GLUA1 to GLUA4. GluR1 have a critical role in LTP formation in the CA1 region of hippocampus and is necessitated for synaptic delivery of AMPA receptors.

Keywords: Long-Term Potentiation, Learning and Memory, AMPA Rreceptors.

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