# Hippocampus - neurotransmission and plasticity in the nervous system

## Nova Biomedical Books - Increase of KCC2 in hippocampal synaptic plasticity disturbances after perinatal ethanol exposure

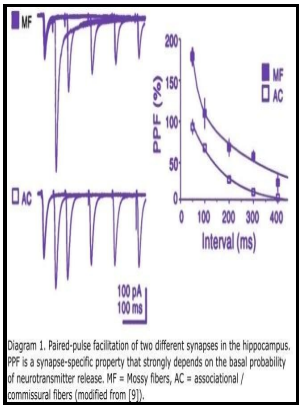

Diagram 1. Paired-pulse facilitation of two different synapses in the hippocampus. PPF is a synapse-specific property that strongly depends on the basal probability of neurotransmitter release. MF = Mossy fibers, AC = associational / commissural fibers (modified from [9]).

Description: -
-
gamma-Aminobutyric Acid -- physiology
Synaptic Transmission -- physiology
Neuronal Plasticity -- physiology
Hippocampus -- physiology
GABA
Neuroplasticity
Neural transmission
Hippocampus (Brain) -- Physiologyhippocampus - neurotransmission and plasticity in the nervous system
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Tags: #Synaptic #Plasticity

**The Hippocampus: Neurotransmission and Plasticity in the Nervous System**

An interesting property of the hippocampal formation is the unidirectionality of its inputs and outputs, in a way that leads excitation to flow from one structure to the next with a minimum amount of feedback. Conversely, incubating hippocampal slices with a superoxide-generating system leads to an increase in synaptic trans 39 mission that occludes LTP Knapp Klann, 2002.

**Neurotransmitters in the regulation of neuronal cytoarchitecture**

One such form of short-term plasticity is called depolarization-induced suppression of inhibition DSI or excitation DSE and can be induced by a brief seconds postsynaptic depolarization. One key target of CaMKII activity is the c-amino-3- hydroxyl-5-methyl-4-isoxazole-propionate AMPA receptor. Fluorescence intensity will change with depth because of the scattering of the brain tissue.

**Modulators of synaptic plasticity in the hippocampus**

LTP occurs when the action potential back- propagates in the dendrites after the stimulation of the afferents has pro duced an excitatory postsynaptic potential EPSP within the target cell.

**Hippocampal synaptic plasticity is impaired in the Mecp2**

In contrast, adenosine is released from both neurons and glia via nucleoside transporters or diffusion over the cell membrane in a non-vesicular, non-synaptic fashion; its receptors are exclusively G-protein coupled receptors. We first looked at the effects of the 5-HT6 antag onist on LTP using a 400 Hz theta-burst pattern stimulation Figure 2.

**Modulators of synaptic plasticity in the hippocampus**

Glutamergic neurons convert intracellular glutamine to glutamate, and utilize a vesicular transporter to concentrate the neurotransmitter in presynaptic vesicles.

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