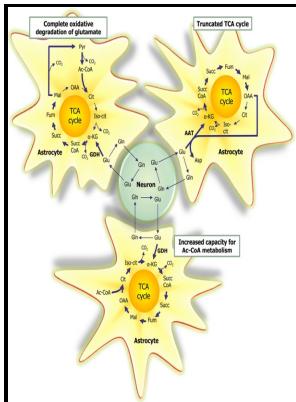


# Electrophysiological correlates and consequences of glutamate uptake and metabolic stress in the in vitro hippocampal slice

University of Birmingham - Altered functional brain network connectivity and glutamate system function in transgenic mice expressing truncated Disrupted



Description: -

-Electrophysiological correlates and consequences of glutamate uptake and metabolic stress in the in vitro hippocampal slice

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Tags: #Astrocytes #convert #network #excitation #to #tonic #inhibition #of #neurons

## Astrocytes convert network excitation to tonic inhibition of neurons

Discussion Employing an animal model of schizophrenia based on chronic low-dose application of the NMDA receptor antagonist MK-801 in a vulnerable developmental period, we have previously reported molecular, cellular, functional, and behavioral abnormalities which support the theory of NMDA receptor hypofunction in schizophrenia .,. The negative correlation between glutamate levels and glucose metabolism in mGluR5 KO mice at baseline may suggest an unmasking of an inhibitory component of the glutamatergic regulation of neuronal energy metabolism. Effect of haloperidol on MK-801 induced glutamate efflux.

## The Glutamate Cascade: Common Pathways of Central Nervous System Disease States

Furthermore in vivo 1 H-proton magnetic resonance spectroscopy studies have revealed that ketamine administration in healthy volunteers enhances cingulate glutamine release.

## S100B Secretion in Acute Brain Slices: Modulation by Extracellular Levels of Ca 2+ and K +

Pietraszek M, Golembiowska K, Bijak M, Ossowska K, Wolfarth S 2002 Differential effects of chronic haloperidol and clozapine administration on glutamatergic transmission in the fronto-parietal cortex in rats: microdialysis and electrophysiological studies. NIH Institutions Comprising Agenda Committee: NIDA, NINDS, NIAAA, NIMH, NIA, NIDDK, NICHD, NIDR, NIAID Speaker Abstracts Gary J.

## The stressed synapse: the impact of stress and glucocorticoids on glutamate transmission

Parallel with the blockade of the two transcription factors, amphetamine-stimulated mRNA expression of neuropeptides, preprodynorphin, substance P and preproenkephalin, in the striatum was also reduced by MCPG. Lea PM, Custer SJ, Vicini S, Faden AI.

### **The stressed synapse: the impact of stress and glucocorticoids on glutamate transmission**

The box plots represent the staining intensity relative to the mean staining intensity in the control group. Professor Department of Neurology  
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Linda Brady, Ph.

### **S100B Secretion in Acute Brain Slices: Modulation by Extracellular Levels of Ca 2+ and K +**

High levels of activity at NMDA receptors in the brain are known to lead to neuronal death or dysfunction.

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