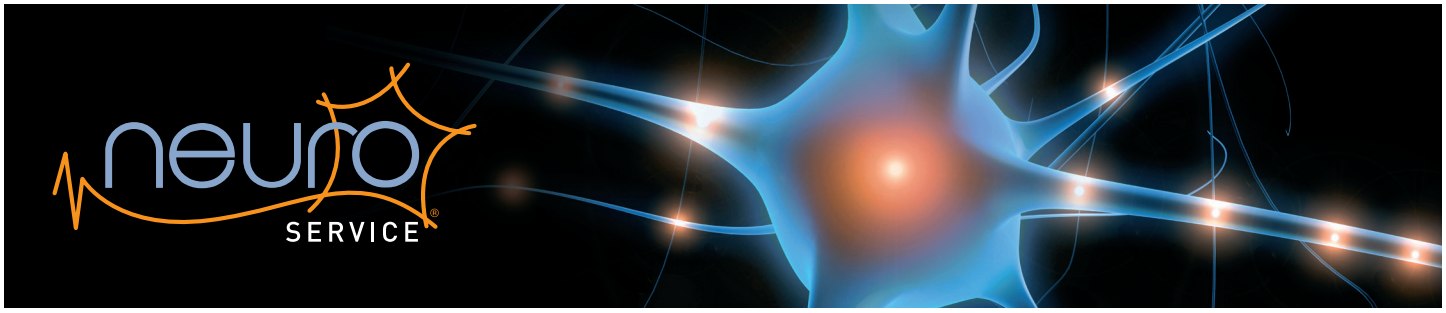
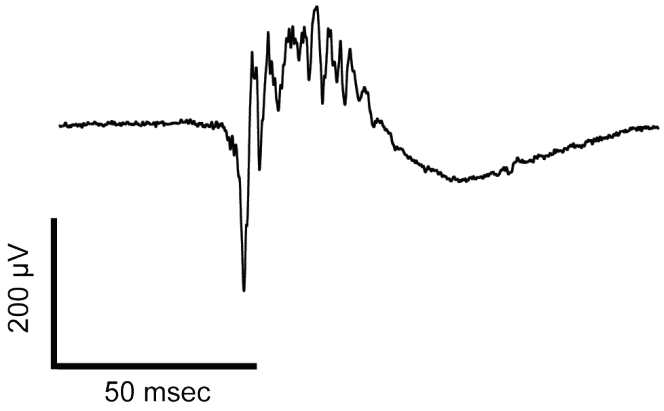
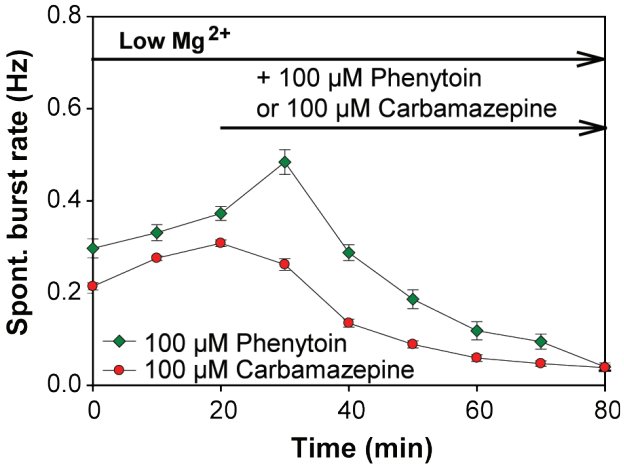


P-017 : **MODEL OF LOW MAGNESIUM-INDUCED EPILEPSY** : **CARBAMAZEPINE PHENYTOIN** : **NMDA RECEPTORS**

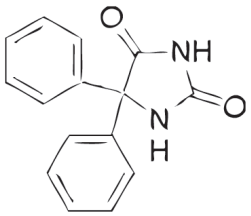
A



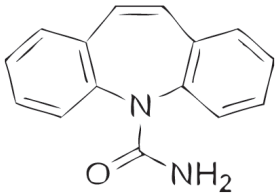
B



Phenytoin



Carbamazepine



BIOLOGY

Hippocampal slice perfusion with a low-magnesium solution quikly triggers rhythmic, low frequency, and synchronized spontaneous Epileptiform Discharges (ED) in the whole CA3 region. ED then propagate in the CA1 region. This model of epilepsy is dependent on NMDA receptor activation. ED frequency increases and becomes steady only a few minutes after perfusion of the slice with low-magnesium. Most of in vivo efficient anti-epileptic drugs (AED) are able to reduce ED back to control conditions. This allows to determine time- and dose-related effects of new anti-epeilptic drugs (AED) as well as to compare their efficiency. Panel A presents an example of ED occuring in the CA3 region in low-magnesium conditions. Panel B displays the time-related effects of Carbamazepine and Phenytoin.

PATHOLOGIES ASSOCIATED WITH mGluR2 RECEPTORS

Epilepsy

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