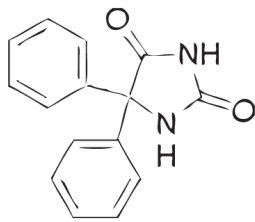
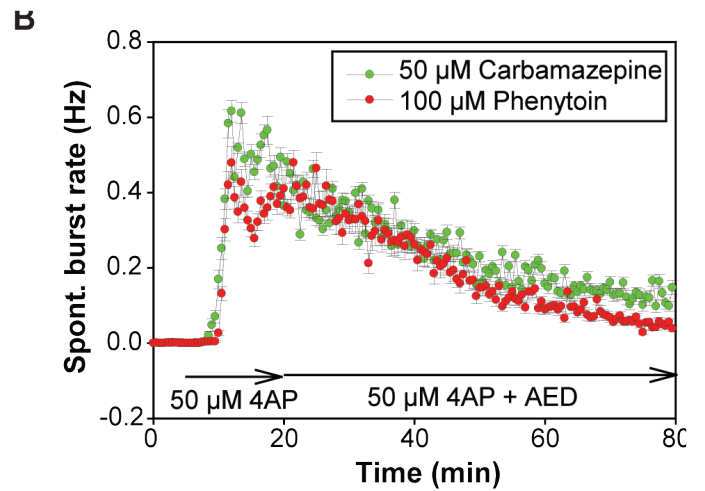
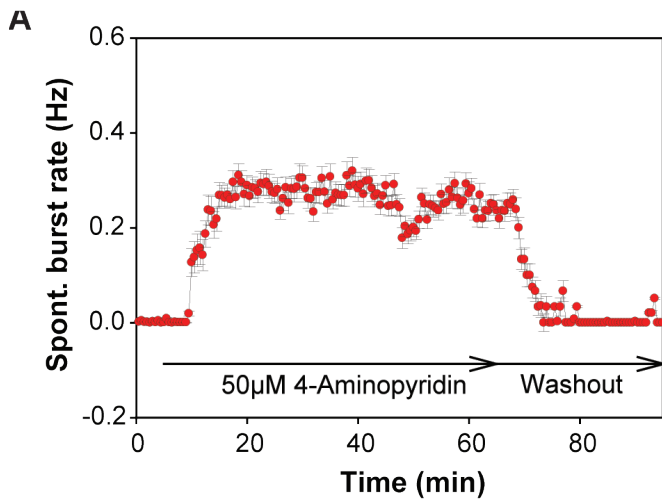
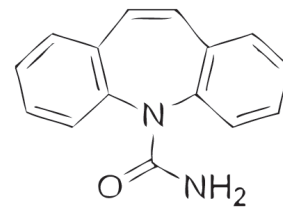


**P-016** ● **MODEL OF 4-AMINOPYRIDINE-INDUCED EPILEPSY** ● **PHENYTOIN CARBAMAZEPINE** ● **K<sup>+</sup> CHANNEL**



Phenytoin



Carbamazepine

### BIOLOGY

Perfusion of the rat hippocampal slice with 4-Aminopyridin (4-AP), a K<sup>+</sup> channel blocker, induces epileptiform discharges in conditions where synaptic inhibition is preserved. As presented on panel A, rhythmic spontaneous bursts occur in whole CA3 region after a few minutes of exposure to 4-AP and epileptic discharge frequency remains stable over a one hour period. Anti-Epileptic Drugs (AED) like carbamazepine or phenytoin strongly decrease spontaneous burst frequency (see panel B).

### PATHOLOGIES ASSOCIATED WITH MGLUR2 RECEPTOR

Epilepsy

### BIBLIOGRAPHY

- Perreault P, Avoli M (1991). J Neurophysiol 65:771-785.  
 Traub RD, Colling SB, Jefferys JG (1995). J Physiol 489 [ Pt 1]:127-140.  
 Yonekawa WD, Kapetanovic IM, Kupferberg HJ (1995). Epilepsy Res 20:137-150.

Last update: March, 6, 2009

**e l e c t r o p h y s i o l o g i c a l   t e s t i n g   f o r   t h e   C N S**