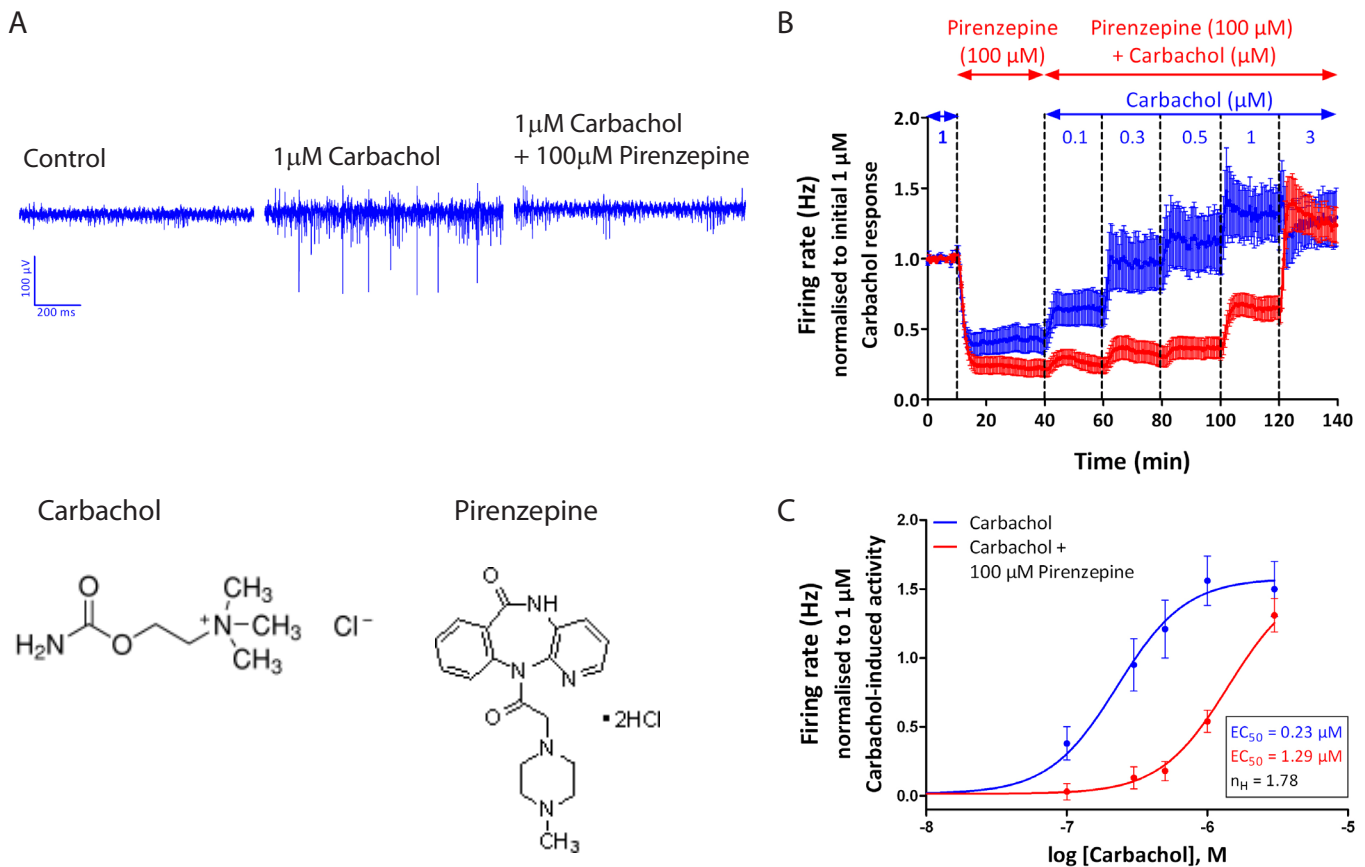


P-023 • **CHOLINERGIC RECEPTORS-MEDIATED INCREASE OF CA1 PYRAMIDAL NEURONS FIRING** • **CARBACHOL & PIRENZEPINE** • **M₁ MUSCARINIC ACETYLCHOLINE RECEPTORS**



BIOLOGY

Representative CA1 neurons firing in control conditions or after exposure to Carbachol, in the presence or absence of Pirenzepine, are presented in panel A. Within the hippocampus, Carbachol increases in a concentration-dependent manner the firing rate of CA1 pyramidal neurons (see panel A & B) through M₁ muscarinic acetylcholine receptor (M₁ mAChR) activation. In the presence of Pirenzepine, a relatively selective M₁ mAChR antagonist, Carbachol dose-response curve is right shifted (see panel C).

PATHOLOGIES ASSOCIATED WITH M₁ mACh RECEPTORS

Alzheimer's Disease - Schizophrenia - Cognitive dysfunctions

BIBLIOGRAPHY

Langmead CJ, Watson J, Reavill C (2008). *Pharmacol Ther.* Feb;117(2):232-43. Review.
 Caccamo A, Oddo S, Billings LM, Green KN, Martinez-Coria H, Fisher A, LaFerla FM (2006). *Neuron* Mar 2;49(5):671-82.
 Watt ML, Schober DA, Hitchcock S, Liu B, Chesterfield AK, McKinzie D, Felder CC (2011). *J Pharmacol Exp Ther.* Aug;338(2):622-32.

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electrophysiological testing for the CNS