

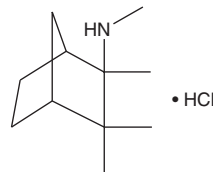
PRODUCT INFORMATION



Mecamylamine (hydrochloride)

Item No. 14602

CAS Registry No.:	826-39-1
Formal Name:	N,2,3,3-tetramethyl-bicyclo[2.2.1]heptan-2-amine, monohydrochloride
Synonym:	Inversine
MF:	C ₁₁ H ₂₁ N • HCl
FW:	203.8
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

Mecamylamine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the mecamylamine (hydrochloride) in the solvent of choice. Mecamylamine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of mecamylamine (hydrochloride) in these solvents is approximately 20, 5, and 2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of mecamylamine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of mecamylamine (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Mecamylamine is a noncompetitive nicotinic acetylcholine receptor antagonist with preferential activity at the $\alpha_3\beta_4$ subtype ($IC_{50} = 90-640$ nM) compared to $\alpha_4\beta_2$, $\alpha_3\beta_2$, and α_7 subtypes (IC_{50} range from 1-7 μ M).¹ Mecamylamine is widely used as a broad-spectrum antagonist of neuronal nicotinic acetylcholine receptors in basic nicotine research. It has been reported to be effective as an aid to smoking cessation and may also be of use in various nicotine-responsive, neuropsychiatric disorders.¹⁻³

References

1. Papke, R.L., Sanberg, P.R., and Shytle, R.D. Analysis of mecamylamine stereoisomers on human nicotinic receptor subtypes. *J. Pharmacol. Exp. Ther.* **297**(2), 646-656 (2001).
2. Damaj, M.I., Flood, P., Ho, K.K., et al. Effect of dextrometorphan and dextrorphan on nicotine and neuronal nicotinic receptors: *In vitro* and *in vivo* selectivity. *J. Pharmacol. Exp. Ther.* **312**(2), 780-785 (2005).
3. Mineur, Y.S. and Picciotto, M.R. Nicotine receptors and depression: Revisiting and revising the chlorinergic hypothesis. *Trends Pharmacol. Sci.* **31**(12), 580-586 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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