Data Sheet (Cat.No.T37728)

TargetMol

Methoctramine (hydrate)

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Methoctramine is a selective antagonist of M2 muscarinic acetylcholine receptors (IC50 = 6.1 nM in CHO-K1 cell membranes).[1] It is selective for M2 over M1, M3, M4, and M5 receptors (IC50s = 92, 770, 260, and 217 nM, respectively).
Targets(IC50)	Others
In vitro	In vitro, methoctramine inhibits acetylcholine-induced reductions in isolated guinea pig tracheal tube contractions when used at a concentration of 1 μM.[2]
In vivo	In vivo, methoctramine inhibits bradycardia and bronchoconstriction induced by acetylcholinein guinea pigs with ED50 values of 38 and 81 nmol/kg, respectively. In a rat model of spinal cord injury, methoctramine suppresses bladder overactivity induced by the non-selective muscarinic acetylcholine receptor agonist oxotremorine M.[3]

Solubility Information

Solubility	PBS (pH 7.2): 10 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

Buckley, N.J., Bonner, T.I., Buckley, C.M., et al. Antagonist binding properties of five cloned muscarinic receptors expressed in CHO-K1 cells. Mol. Pharm. 35(4), 469-476 (1989).

Watson, N., Barnes, P.J., and Maclagan, J. Actions of methoctramine, a muscarinic M2 receptor antagonist, on muscarinic and nicotinic cholinoceptors in guinea-pig airways in vivo and in vitro. Br. J. Pharmacol. 105(1), 107-112 (1992).

Matsumoto, Y., Miyazato, M., Yokoyama, H., et al. Role of M2 and M3 muscarinic acetylcholine receptor subtypes in activation of bladder afferent pathways in spinal cord injured rats. Urology 79(5), 1184.e1115-e1120 (2012).

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