

Product Data Sheet

Product Name: Methoctramine

Cat. No.: GC18563

Chemical Properties

Cas. No. 104807-46-7

Chemical Name N1,N8-bis[6-[[[(2-methoxyphenyl)methyl]amino]hexyl]-1,8-octanediamine, tetrahydrochloride

SMILES COC1=C(CNCCCCCNCCCCCNCCCCCNCCCCCNCC2=C(OC)C=CC=C2)C=CC=C1.Cl.Cl.Cl.Cl

Formula $C_{36}H_{62}N_4O_2 \cdot 4HCl$

M.Wt 728.8

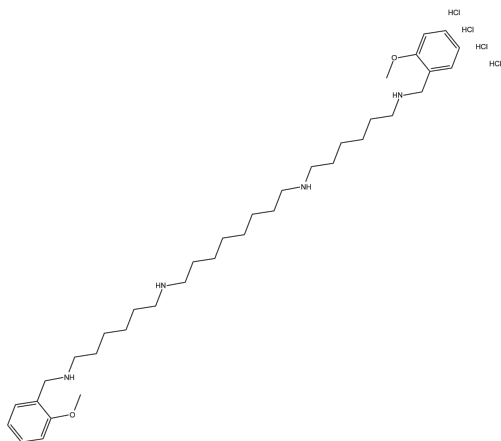
Solubility 10 mg/ml in PBS (pH 7.2)

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

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). In vitro, methoctramine inhibits acetylcholine-induced reductions

Caution: Product has not been fully validated for medical applications. For research use only.

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in isolated guinea pig tracheal tube contractions when used at a concentration of 1 μ M. [2] In vivo, methoctramine inhibits bradycardia and bronchoconstriction induced by acetylcholine in 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]

Reference

- [1]. 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).
- [2]. Watson, N., Barnes, P.J., and MacLagan, J. Actions of methoctramine, a muscarinic M2 receptor antagonist, on muscarinic and nicotinic cholinergic receptors in guinea-pig airways in vivo and in vitro. *Br. J. Pharmacol.* 105(1), 107-112 (1992).
- [3]. 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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