

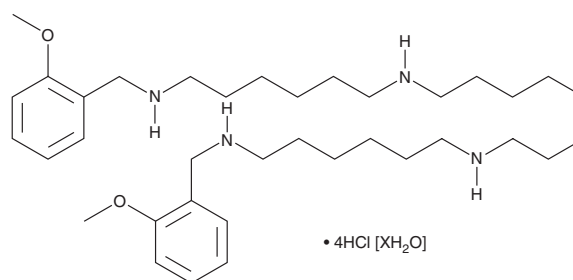
PRODUCT INFORMATION



Methoctramine (hydrate)

Item No. 24317

Formal Name: N¹,N⁸-bis[6-[[[(2-methoxyphenyl)methyl]amino]hexyl]-1,8-octanediamine, tetrahydrochloride, hydrate
MF: C₃₆H₆₂N₄O₂ • 4HCl [XH₂O]
FW: 728.8
Purity: ≥95%
UV/Vis.: λ_{max}: 220, 275 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Methoctramine (hydrate) is supplied as a crystalline solid. Aqueous solutions of methoctramine (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of methoctramine (hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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). *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*, methoctramine inhibits bradycardia and bronchoconstriction induced by acetylcholine (Item No. 23829) 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 (Item No. 20847).³

References

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.e15-e20 (2012).

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.

WARRANTY AND LIMITATION OF REMEDY

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