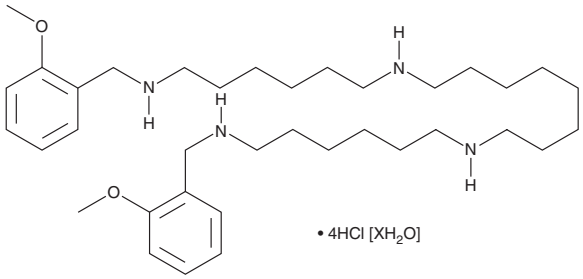
PRODUCT INFORMATION

Methoctramine (hydrate)

Item No. 24317

Formal Name:	N^1,N^8-*bis*[6-[[(2-methoxyphenyl)methyl]amino]hexyl]-1,8-octanediamine, tetrahydrochloride, hydrate
MF:	$C_{36}H_{62}N_4O_2 \bullet 4HCl\ [XH_2O]$
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 M_2 muscarinic acetylcholine receptors (IC_{50} = 6.1 nM in CHO-K1 cell membranes).[1] It is selective for M_2 over M_1, M_3, M_4, and M_5 receptors (IC_{50}s = 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 ED_{50} 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 M_2 receptor antagonist, on muscarinic and nicotinic cholinoceptors 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM