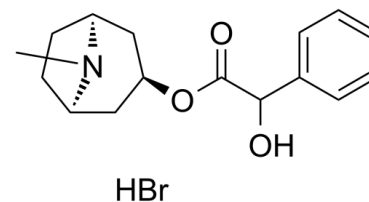


Data Sheet

Product Name:	Homatropine (Bromide)
Cat. No.:	CS-2649
CAS No.:	51-56-9
Molecular Formula:	C ₁₆ H ₂₂ BrNO ₃
Molecular Weight:	356.25
Target:	mAChR
Pathway:	GPCR/G Protein; Neuronal Signaling
Solubility:	DMSO : 21.5 mg/mL (60.35 mM; Need ultrasonic and warming)



BIOLOGICAL ACTIVITY:

Homatropine Bromide is muscarinic AChR antagonist that is an anticholinergic medication. Target: mAChR Homatropine is an anticholinergic medication that is an antagonist at muscarinic acetylcholine receptors and thus the parasympathetic nervous system. Homatropine (20 μM) alone produces a dose ratio of 259 in atrium from guinea-pigs. Homatropine (20 μM) produces a dose ratio of only 95.0 when combined with hexamethonium in atrium from guinea-pigs [1]. Homatropine has similar affinities for muscarinic receptors in stomach (pA₂ = 7.13) and for those in atria mediating force (pA₂ = 7.21) and rate (pA₂ = 7.07) responses [2]. Homatropine [¹⁴C]methylbromide administered rectal achieves higher and rapid peak plasma concentrations than by the other routes in rats whether HMB-14C is administered in a water-soluble suppository base or in aqueous solution, retained 28% of the ¹⁴C has been excreted in the urine while 56% remained in the large intestine after 12 hours. Unlabelled Homatropine methylbromide, given in rectal suppositories to anaesthetized rats, causes prompt blockade of the effects of vagal stimulation on pulse rate and of intravenous acetylcholine on blood pressure [3].

References:

- [1]. Leung, E. and F. Mitchelson, Modification by hexamethonium of the muscarinic receptors blocking activity of pancuronium and homatropine in isolated tissues of the guinea-pig. *Eur J Pharmacol*, 1982. 80(1): p. 11-7.
- [2]. Gilani, S.A. and L.B. Cobbin, Interaction of himbacine with carbachol at muscarinic receptors of heart and smooth muscle. *Arch Int Pharmacodyn Ther*, 1987. 290(1): p. 46-53.
- [3]. Cramer, M.B., L.A. Cates, and D.E. Clarke, Rectal absorption of homatropine [¹⁴C]methylbromide in the rat. *J Pharm Pharmacol*, 1978. 30(5): p. 284-6.

CAIndexNames:

Benzeneacetic acid, α-hydroxy-, (3-endo)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl ester, hydrobromide (1:1)

SMILES:

O=C(C(C1=CC=CC=C1)O)O[C@H]2C[C@@H](CC3)N(C)[C@@H]3C2.Br

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

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