Homatropine Bromide

Cat. No.: HY-B0547A

CAS No.: 51-56-9

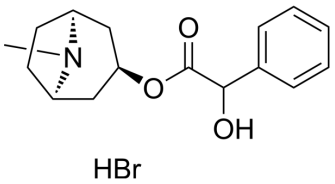
Molecular Formula: $C_{16}H_{22}BrNO_3$

Molecular Weight: 356.25

Target: mAChR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (280.70 mM; Need ultrasonic)
H_2O : 100 mg/mL (280.70 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8070 mL	14.0351 mL	28.0702 mL
5 mM	0.5614 mL	2.8070 mL	5.6140 mL
10 mM	0.2807 mL	1.4035 mL	2.8070 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (140.35 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.02 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.02 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.02 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Homatropine Bromide is an orally active muscarinic acetylcholine receptor antagonist and can be used as an anticholinergic agent[1].

In Vitro

Homatropine (20 μM) alone produces a dose ratio of 259 in atrium from guinea-pigs, and produces a dose ratio of only 95.0 when combined with Hexamethonium Bromide (HY-B0569) in atrium from guinea-pigs[1].
Homatropine has 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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Homatropine methylbromide (9 mm x 5 mm conical suppository) causes prompt blockade of the effects of vagal stimulation on pulse rate and of intravenous acetylcholine on blood pressure in rats[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male albino rats[3]
Dosage:	9 mm x 5 mm conical suppository
Administration:	By suppository
Result:	Blocked cardiovascular responses to vagal stimulation and acetylcholine; 10-20 min after insertion of the suppository the effects of vagal stimulation over a range of 2-16 Hz, 5 V, on pulse rate was virtually abolished and remained unchanged at 45-60 min.

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.

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