Propantheline bromide

Cat. No.: HY-B1188

CAS No.: 50-34-0

Molecular Formula: $C_{23}H_{30}BrNO_3$

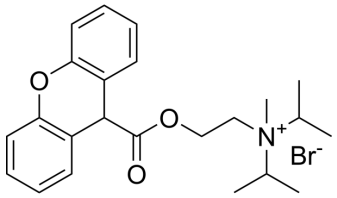
Molecular Weight: 448.39

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 (223.02 mM)

H_2O : 50 mg/mL (111.51 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2302 mL	11.1510 mL	22.3020 mL
5 mM	0.4460 mL	2.2302 mL	4.4604 mL
10 mM	0.2230 mL	1.1151 mL	2.2302 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 130 mg/mL (289.93 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 (5.58 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.58 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Propantheline bromide is an orally active mAChR antagonist. Propantheline bromide can be used in the research of smooth muscle dysfunction, excessive sweating, cramps or spasms of the stomach, intestines or bladder, and involuntary urination [1][2][3].

IC_{50} & Target

mAChR[1]

In Vitro	Propantheline bromide (10 μM-1 mM) decreases urinary bladder smooth muscle reactivity to Acetylcholine[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Propantheline bromide (oral administration, 10-300 mg/kg) decreased the fecal pellet count and the incidences diarrhea in restraint stress-induced bowel dysfunction rats[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Restraint stress-induced bowel dysfunction models in rats[3]
Dosage:	10-300 mg/kg
Administration:	Oral administration
Result:	Decreased the fecal pellet count with ED_{50} values of 41 mg/kg. Dose-dependently decreased the incidences of diarrhea with ED50 values of 64 mg/kg.

REFERENCES

[1]. J Mokry, et al. Propantheline and in vitro reactivity of urinary bladder smooth muscle in guinea pigs. Bratisl Lek Listy. 2005;106(4-5):151-4.

[2]. Richard Jewell, et al. Propantheline. xPharm: The Comprehensive Pharmacology Reference. 2007, Pages 1-5.

[3]. S Kobayashi, et al. Effects of YM905, a novel muscarinic M3-receptor antagonist, on experimental models of bowel dysfunction in vivo. Jpn J Pharmacol. 2001 Jul;86(3):281-8.

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