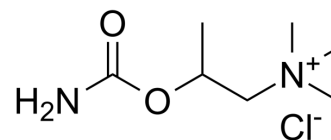


Bethanechol chloride

Cat. No.:	HY-B0406A
CAS No.:	590-63-6
Molecular Formula:	C ₇ H ₁₇ ClN ₂ O ₂
Molecular Weight:	196.68
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	H ₂ O : ≥ 50 mg/mL (254.22 mM) DMSO : 11.11 mg/mL (56.49 mM; Need ultrasonic) * "≥" means soluble, but saturation unknown.				
	Preparing Stock Solutions	<div>Solvent Concentration</div> Mass	1 mg	5 mg	10 mg
		1 mM	5.0844 mL	25.4220 mL	50.8440 mL
		5 mM	1.0169 mL	5.0844 mL	10.1688 mL
		10 mM	0.5084 mL	2.5422 mL	5.0844 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (508.44 mM); Clear solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	Bethanechol chloride (Carbamyl-β-methylcholine chloride), a parasympathomimetic agent, is a mAChR agonist that exerts its effects via directly stimulating the mAChR (M1, M2, M3, M4, and M5) of the parasympathetic nervous system ^[1] .
IC ₅₀ & Target	mAChR ^[1]
In Vitro	Bethanechol chloride (0.3-300 μM) significantly reduces ileal pacemaker potentials ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Bethanechol (2-12 mg/kg; i.p.) induces drinking and increases urine output of rats in a dose-dependent fashion ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female rats of the Blue Spruce Farms (Sprague-Dawley) (280-330 g) ^[4]
Dosage:	2 mg/kg, 4 mg/kg, 8 mg/kg, 12 mg/kg
Administration:	Intraperitoneal injection
Result:	Increased water intake during the first hr in a dose-dependent fashion up to the highest dose administered (12 mg/kg).

CUSTOMER VALIDATION

- Research Square Preprint. 2022 Mar.

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REFERENCES

- [1]. Inderbir S. Padda, et al. Bethanechol. Treasure Island (FL): StatPearls Publishing; 2020 Jan-.
- [2]. M J Fregly, et al. Bethanechol-induced water intake in rats: possible mechanisms of induction. Pharmacol Biochem Behav. 1982 Oct;17(4):727-32.
- [3]. Julia Yuen Hang Liu, et al. Acetylcholine exerts inhibitory and excitatory actions on mouse ileal pacemaker activity: role of muscarinic versus nicotinic receptors. Am J Physiol Gastrointest Liver Physiol. 2020 Jul 1;319(1):G97-G107.

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

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