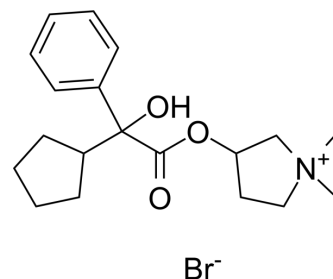


## Glycopyrrolate

<b>Cat. No.:</b>	HY-17465
<b>CAS No.:</b>	596-51-0
<b>Molecular Formula:</b>	C <sub>19</sub> H <sub>28</sub> BrNO <sub>3</sub>
<b>Molecular Weight:</b>	398.33
<b>Target:</b>	mAChR
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling
<b>Storage:</b>	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<sub>2</sub>O : 100 mg/mL (251.05 mM; Need ultrasonic)  
DMSO : 100 mg/mL (251.05 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.5105 mL	12.5524 mL	25.1048 mL
	5 mM	0.5021 mL	2.5105 mL	5.0210 mL
	10 mM	0.2510 mL	1.2552 mL	2.5105 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 50 mg/mL (125.52 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Glycopyrrolate (Glycopyrrolate bromide), a quaternary ammonium derivative, is a muscarinic receptor antagonist. Glycopyrrolate has bronchoprotective effect and produces a beneficial effect on blood pressure. Glycopyrrolate can be used for the research of bronchial diseases<sup>[1][2][3]</sup>.

#### In Vitro

Glycopyrrolate (1-10 nM, 30 min) has an effect of protecting large and small airways in guinea pig lung slices<sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## In Vivo

Glycopyrrolate (0.005-0.01 mg/kg, Intravenous injection, single dose or give a second dose if heart rate (HR) < 70 beats/min ) produces a beneficial effect on blood pressure in anesthetized dogs<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Anesthetized dogs <sup>[2]</sup>
Dosage:	0.005mg/kg, 0.01 mg/kg
Administration:	Intravenous injection (i.v.)
Result:	Resulted in a significant increase in HR. Significant increased systolic, diastolic, and mean BP above baseline values.

## CUSTOMER VALIDATION

- J Mol Struct. 18 June 2022, 133549.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Maarsingh H, et al. Effects of (a Combination of) the Beta2-Adrenoceptor Agonist Indacaterol and the Muscarinic Receptor Antagonist Glycopyrrolate on Intrapulmonary Airway Constriction [J]. Cells, 2021, 10(5): 1237.
- [2]. Dyson D H, et al. Dose effect and benefits of glycopyrrolate in the treatment of bradycardia in anesthetized dogs [J]. The Canadian Veterinary Journal, 1999, 40(5): 327.
- [3]. Hansel T T, Neighbour H, Erin E M, et al. Glycopyrrolate causes prolonged bronchoprotection and bronchodilatation in patients with asthma [J]. Chest, 2005, 128(4): 1974-1979.

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

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