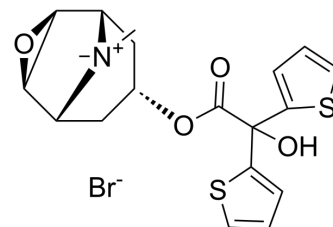


Tiotropium Bromide

Cat. No.:	HY-17360
CAS No.:	136310-93-5
Molecular Formula:	C ₁₉ H ₂₂ BrNO ₄ S ₂
Molecular Weight:	472
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 : ≥ 30 mg/mL (63.56 mM)
H₂O : 25 mg/mL (52.97 mM; Need ultrasonic)
* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.1186 mL	10.5932 mL	21.1864 mL
	5 mM		0.4237 mL	2.1186 mL	4.2373 mL
	10 mM		0.2119 mL	1.0593 mL	2.1186 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 27.5 mg/mL (58.26 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tiotropium Bromide (BA679 BR) is a muscarinic acetylcholine receptor (mAChR) antagonist that blocks the binding of the acetylcholine ligand and subsequent opening of the ligand-gated ion channel.

IC₅₀ & Target

mAChR

In Vitro

Tiotropium Bromide stops signaling between neurons and leads to muscle relaxation. Tiotropium Bromide is a long-acting, 24 hour, anticholinergic bronchodilator used in the management of chronic obstructive pulmonary disease. Tiotropium Bromide improves symptoms of chronic obstructive pulmonary disease complicated by chronic heart failure. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Barnes PJ. Tiotropium bromide. Expert Opin Investig Drugs. 2001 Apr;10(4):733-40.
- [2]. ZuWallack AR, ZuWallack RL. Tiotropium bromide, a new, once-daily inhaled anticholinergic bronchodilator for chronic-obstructive pulmonary disease. Expert Opin Pharmacother. 2004 Aug;5(8):1827-35.
- [3]. Lipson DA. Tiotropium bromide. Int J Chron Obstruct Pulmon Dis. 2006;1(2):107-14.
- [4]. Mamary AJ, Criner GJ. Tiotropium bromide for chronic obstructive pulmonary disease. Expert Rev Respir Med. 2009 Jun;3(3):211-20.
- [5]. Szmids M. [The influence of treatment with formoterol, formoterol with tiotropium, formoterol with inhaled glucocorticosteroid and tiotropium on lung functions, tolerance of exercise and simple, morning everyday activities in patients with chronic obstructive pulmonary disease (COPD)]. Pneumonol Alergol Pol. 2012;80(3):255-62.
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Caution: Product has not been fully validated for medical applications. For research use only.

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