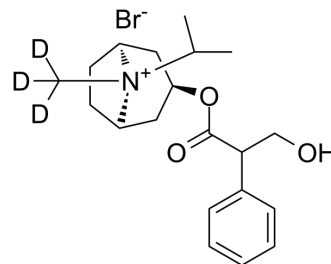


Ipratropium-d₃ bromide

Cat. No.:	HY-B0241S
Molecular Formula:	C ₂₀ H ₂₇ D ₃ BrNO ₃
Molecular Weight:	415.38
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)



BIOLOGICAL ACTIVITY

Description	Ipratropium-d ₃ (bromide) is the deuterium labeled Ipratropium bromide. Ipratropium bromide (Sch 1000) is a muscarinic receptor antagonist, with binding IC ₅₀ values of 2.9 nM, 2 nM, and 1.7 nM for M ₁ , M ₂ , and M ₃ receptors, respectively. Ipratropium bromide can be used in the research for COPD (chronic obstructive pulmonary disease) and asthma[1][2][3].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
- [2]. Fryer, A.D. and J. Maclagan, Ipratropium bromide potentiates bronchoconstriction induced by vagal nerve stimulation in the guinea-pig. *Eur J Pharmacol*, 1987. 139(2): p. 187-91.
- [3]. Harvey, K.L., A. Hussain, and H.L. Maddock, Ipratropium Bromide-Mediated Myocardial Injury in In Vitro Models of Myocardial Ischaemia/Reperfusion. *Toxicol Sci*, 2014.
- [4]. Wenhui Zhang, et al. Anti-inflammatory effects of formoterol and ipratropium bromide against acute cadmium-induced pulmonary inflammation in rats. *Eur J Pharmacol.* 2010 Feb 25;628(1-3):171-8.
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Caution: Product has not been fully validated for medical applications. For research use only.

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