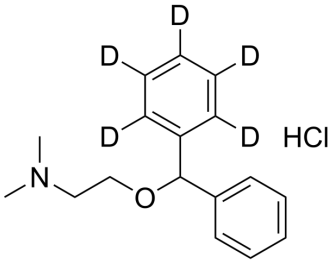
Diphenhydramine-d_5 hydrochloride

Cat. No.:	HY-B0303AS1
CAS No.:	1219795-16-0
Molecular Formula:	$C_{17}H_{17}D_5ClNO$
Molecular Weight:	296.85
Target:	Histamine Receptor; Endogenous Metabolite
Pathway:	GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling; Metabolic Enzyme/Protease
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

H2O : 100 mg/mL (336.87 mM; Need ultrasonic)
DMSO : 100 mg/mL (336.87 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass → Concentration	1 mg	5 mg	10 mg
1 mM	3.3687 mL	16.8435 mL	33.6870 mL
5 mM	0.6737 mL	3.3687 mL	6.7374 mL
10 mM	0.3369 mL	1.6844 mL	3.3687 mL

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

BIOLOGICAL ACTIVITY

Description

Diphenhydramine-d_5 (hydrochloride) is the deuterium labeled Diphenhydramine hydrochloride. Diphenhydramine hydrochloride is a first-generation histamine H1-receptor antagonist with anti-cholinergic effect. Diphenhydramine hydrochloride can across the ovine blood-brain barrier (BBB)[1][2].

IC_{50} & Target

H_1 Receptor

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]. Simons FE. H1-receptor antagonists. Comparative tolerability and safety. Drug Saf. 1994;10(5):350-380.

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