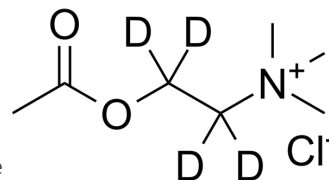


Acetylcholine-d₄ chloride

Cat. No.:	HY-B0282S
CAS No.:	344298-94-8
Molecular Formula:	C ₇ H ₁₂ D ₄ ClNO ₂
Molecular Weight:	185.69
Target:	nAChR; Calcium Channel; Endogenous Metabolite
Pathway:	Membrane Transporter/Ion Channel; 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 (538.53 mM; Need ultrasonic)
 DMSO : 50 mg/mL (269.27 mM; Need ultrasonic)
 DMSO : 50 mg/mL (269.27 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	5 mM	10 mM	
	1 mM	5.3853 mL	26.9266 mL	53.8532 mL	
	5 mM	1.0771 mL	5.3853 mL	10.7706 mL	
	10 mM	0.5385 mL	2.6927 mL	5.3853 mL	

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

BIOLOGICAL ACTIVITY

Description

Acetylcholine-d₄ (chloride) is the deuterium labeled Acetylcholine chloride. Acetylcholine chloride (ACh chloride), a neurotransmitter, is a potent cholinergic agonist. Acetylcholine chloride is a modulator of the activity of dopaminergic (DAergic) neurons through the stimulation of nicotinic acetylcholine receptors (nAChRs)[1][2]. Acetylcholine chloride inhibits p53 mutant peptide aggregation in vitro[5].

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.

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- [6]. Zhaolin Chen, et al. Inhibition of p53 Mutant Peptide Aggregation In Vitro by Cationic Osmolyte Acetylcholine Chloride. Protein Pept Lett. 2017;24(4):353-357.
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Caution: Product has not been fully validated for medical applications. For research use only.

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