

Product Data Sheet

Galanthamine-d₃ hydrobromide

Cat. No.:	HY-A0009S		
Molecular Formula:	C ₁₇ H ₁₉ D ₃ BrNO ₃		
Molecular Weight:	371.28	N N	
Target:	nAChR; Cholinesterase (ChE); Isotope-Labeled Compounds		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Others		HBr
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.		

BIOLOGICAL ACTIVITY		
Description	Galanthamine-d ₃ (hydrobromide) is deuterium labeled Galanthamine (hydrobromide). Galanthamine hydrobromide (Galantamine hydrobromide) is a selective, reversible, competitive, alkaloid AChE inhibitor, with an IC50 of 0.35 μM. Galanthamine hydrobromide is a potent allosteric potentiating ligand (APL) of human α3β4, α4β2, α6β4 nicotinic receptors (nAChRs). Galanthamine hydrobromide is developed for the research of Alzheimer's disease (AD)[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]. Acharya Balkrishna, et al. Anti-Acetylcholinesterase Activities of Mono-Herbal Extracts and Exhibited Synergistic Effects of the Phytoconstituents: A Biochemical and Computational Study. Molecules. 2019 Nov; 24(22): 4175.

[3]. Balpreet Matharu, et al. Galantamine inhibits beta-amyloid aggregation and cytotoxicity. J Neurol Sci. 2009 May 15;280(1-2):49-58.

[4]. Debby Van Dam, et al. Symptomatic effect of donepezil, rivastigmine, galantamine and memantine on cognitive deficits in the APP23 model. Psychopharmacology (Berl). 2005 Jun;180(1):177-90.

[5]. Johan Monbaliu, et al. Pharmacokinetics of galantamine, a cholinesterase inhibitor, in several animal species. Arzneimittelforschung. 2003;53(7):486-95.

[6]. L J Scott, et al. Galantamine: a review of its use in Alzheimer's disease. Drugs. 2000 Nov;60(5):1095-122.

[7]. Marek Samochocki, et al. Galantamine is an allosterically potentiating ligand of neuronal nicotinic but not of muscarinic acetylcholine receptors. Pharmacol Exp Ther. 2003 Jun;305(3):1024-36.

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

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