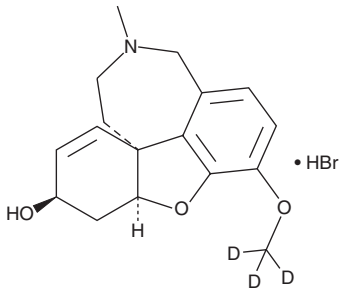
PRODUCT INFORMATION

Galantamine-d_3 (hydrobromide)

Item No. 26103

CAS Registry No.: 2140262-53-7
Formal Name: (4aS,6R,8aS)-3-(methoxy-d_3)-11-methyl-4a,5,9,10,11,12-hexahydro-6H-benzo[2,3]benzofuro[4,3-cd]azepin-6-ol, monohydrobromide
MF: $C_{17}H_{18}D_3NO_3 \bullet HBr$
FW: 371.3
Chemical Purity: ≥95% (Galantamine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Galantamine-d_3 (hydrobromide) is intended for use as an internal standard for the quantification of galantamine by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Galantamine-d_3 (hydrobromide) is supplied as a solid. A stock solution may be made by dissolving the galantamine-d_3 (hydrobromide) in the solvent of choice, which should be purged with an inert gas. Galantamine-d_3 (hydrobromide) is soluble in the organic solvent chloroform.

Description

Galantamine is an alkaloid originally isolated from the bulbs and flowers of *Galanthus* that inhibits acetylcholinesterase (AChE; IC_{50} = 636 nM).[1] It reverses growth inhibition and inhibits apoptosis, autophagic flux, and production of reactive oxygen species (ROS) induced by amyloid-β (Aβ) in neuronally differentiated PC12 cells.[2] Galantamine prevents soman toxicity and inhibits acetylcholinesterase in cynomolgus macaques (ED_{50}s = 590 and 362 µg/kg, respectively).[3] It also decreases escape latency in the Morris water maze and the total hippocampal area of Aβ plaques in an APP/PS1 transgenic mouse model of Alzheimer's disease.[4]

References

1. Rook, Y., Schmidtke, K.U., Gaube, F., *et al.* Bivalent β-carbolines as potential multitarget anti-Alzheimer agents. *J. Med. Chem.* **53(9)**, 3611-3617 (2010).
2. Jiang, S., Zhao, Y., Zhang, T., *et al.* Galantamine inhibits β-amyloid-induced cytostatic autophagy in PC12 cells through decreasing ROS production. *Cell Prolif.* **51(3)**, e12427 (2018).
3. Hamilton, L.R., Schachter, S.C., and Myers, T.M. Time course, behavioral safety, and protective efficacy of centrally active reversible acetylcholinesterase inhibitors in cynomolgus macaques. *Neurochem. Res.* **42(7)**, 1962-1971 (2017).
4. Wu, Z., Zhao, L., Chen, X., *et al.* Galantamine attenuates amyloid-β deposition and astrocyte activation in APP/PS1 transgenic mice. *Exp. Gerontol.* **72**, 244-250 (2015).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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