

Product Name: Galanthamine hydrobromide

Catalog No.: 0686 **Batch No.:** 9

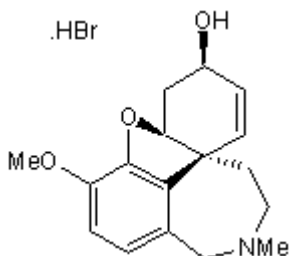
CAS Number: 1953-04-4

EC Number: 217-780-5

IUPAC Name: 4a,5,9,10,11,12-Hexahydro-3-methoxy-11-methyl-6*H*-benzofuro[3a,3,2-ef][2]benzazepin-6-ol hydrobromide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₇H₂₁NO₃.HBr
Batch Molecular Weight: 368.27
Physical Appearance: white crystalline solid
Solubility: DMSO to 100 mM
 water to 50 mM
 phosphate buffered saline to 25 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows >99.6% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = -96 (Concentration = 0.2, Solvent = Water)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.44	6.02	3.8
Found	55.23	6.04	3.7

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Long-acting, centrally active acetylcholinesterase inhibitor (IC_{50} = 410 nM) and allosteric potentiator at neuronal nicotinic ACh receptors. Prevents β -amyloid-induced apoptosis in SH-SY5Y and bovine chromaffin cells. Long-term administration reduces amyloid precursor protein deposition and neurodegeneration in a mouse model of Alzheimer's disease.

Physical and Chemical Properties:

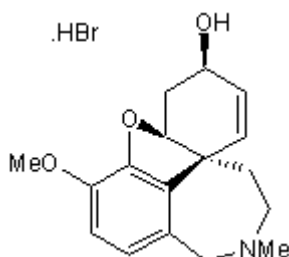
Batch Molecular Formula: $C_{17}H_{21}NO_3 \cdot HBr$

Batch Molecular Weight: 368.27

Physical Appearance: white crystalline solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

DMSO to 100 mM

water to 50 mM

phosphate buffered saline to 25 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Sweeney et al (1989) Galanthamine, an acetylcholinesterase inhibitor: a time course of the effects on performance and neurochemical parameters in mice. *Pharmacol.Biochem.Behav.* **34** 129. PMID: 2626444.

Harvey (1995) The pharmacology of galanthamine and its analogues. *Pharmacol.Ther.* **68** 113. PMID: 8604434.

Capsoni et al (2002) Nerve growth factor and galantamine ameliorate early signs of neurodegeneration in anti-nerve growth factor mice. *Proc.Natl.Acad.Sci.U.S.A.* **99** 12432. PMID: 12205295.

Samochocki et al (2003) Galantamine is an allosterically potentiating ligand of neuronal nicotinic but not of muscarinic acetylcholine receptors. *J.Pharmacol.Exp.Ther.* **305** 1024. PMID: 12649296.

Arias et al (2004) Galantamine prevents apoptosis induced by β -amyloid and thapsigargin: involvement of nicotinic acetylcholine receptors. *Neuropharmacology* **46** 103. PMID: 14654102.

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