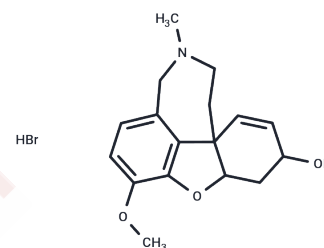


## Galanthamine hydrobromide

## Chemical Properties

CAS No. :	1953-04-4
Formula:	C <sub>17</sub> H <sub>21</sub> NO <sub>3</sub> ·HBr
Molecular Weight:	368.27
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Galanthamine hydrobromide (Galantamine hydrobromide), a long-acting and centrally active AChE inhibitor (IC <sub>50</sub> :410 nM), is an allosteric potentiator at neuronal nicotinic ACh receptors.
Targets(IC <sub>50</sub> )	AChR,Cholinesterase (ChE)
In vitro	Galanthamine has been demonstrated to have an IC <sub>50</sub> of 14 nM and 15 nM on AChE in post-mortem human brain frontal cortex and the hippocampus region. Red-cell cholinesterase activity in blood samples from the neurosurgery patients is 10 times more strongly inhibited by Galanthamine in brain tissue samples. [1] Galanthamine (1 μM) activates single channels with conductance's of 18 and 30 pS in outside-out patches excised from dexamethasone mouse fibroblasts (M10 cells). [2] Galanthamine acts as noncompetitive nicotinic receptor agonists' on clonal rat pheochromocytoma (PC12) cells. Galanthamine (50 μM) activates single-channel currents in outside-out patches excised from clonal PC12 cells. [3]
In vivo	Galantamine significantly increases the number of living pyramidal neurons after ischemia-reperfusion injury. Galantamine significantly reduces TUNEL, active caspase-3, and SOD-2 immunoreactivity. The nicotinic antagonist mecamylamine blocks the protective effects of galantamine. The neuroprotective effects of galantamine are preserved even when first administered at 3 hours postischemia. [4]

## Solubility Information

Solubility	DMSO: 35.59 mg/mL (96.64 mM),Sonication is recommended. H <sub>2</sub> O: 18.2 mg/mL (49.42 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.72 mM),Sonication is recommended. 10% DMSO+90% Saline: 3.56 mg/mL (9.67 mM),Solution. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.7154 mL	13.577 mL	27.154 mL
5 mM	0.5431 mL	2.7154 mL	5.4308 mL
10 mM	0.2715 mL	1.3577 mL	2.7154 mL
50 mM	0.0543 mL	0.2715 mL	0.5431 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

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A developmental gradient reveals biosynthetic pathways to eukaryotic toxins in monocot geophytes

Pereira EF, et al. J Pharmacol Exp Ther, 1994, 270(2), 768-778.

Storch A, et al. Eur J Pharmacol, 1995, 290(3), 207-219.

Lorrio S, et al. J Pharmacol Exp Ther, 2007, 322(2), 591-599.

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