

Galanthamine

Catalog No: tcsc1217



Available Sizes

Size: 50mg

Size: 100mg



Specifications

CAS No:

357-70-0

Formula:

$C_{17}H_{21}NO_3$

Pathway:

Neuronal Signaling

Target:

AChE

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 59 mg/mL (205.32 mM)

Alternative Names:

Galantamine

Observed Molecular Weight:

287.35

Product Description

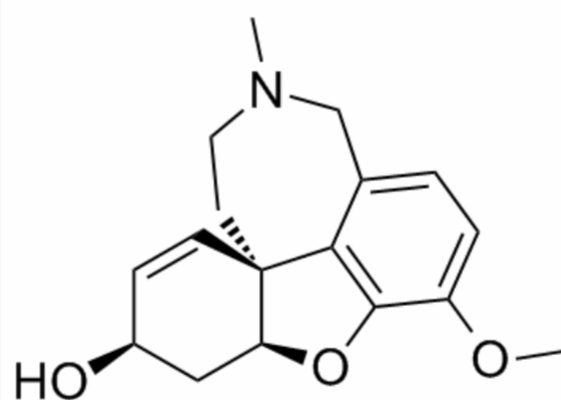
Galanthamine is a potent acetylcholinesterase (**AChE**) inhibitor with **IC₅₀**

of 500 nM.

IC50 & Target: IC50: 0.5 μ M (AChE)^[1]

In Vitro: Galanthamine inhibits AChE and BChE with IC₅₀ of 0.5 and 8.5 μ M^[1]. Galanthamine acts as a positive allosteric modulator (PAM) of human $\alpha 4\beta 2$ AChRs expressed in permanently transfected HEK 293 cells. Galanthamine increases the response of ($\alpha 4\beta 2$)₂ $\alpha 5$ AChRs to 1 μ M ACh by up to 220% with very low concentration (EC₅₀=0.25 nM). Only small potentiation (20%) of either $\alpha 4\beta 2$ or ($\alpha 4\beta 2$)₂ $\beta 3$ AChRs is detected using FLEXstation assays. Galanthamine at concentrations of 1 μ M and above inhibits all three AChR subtypes^[2].

In Vivo: Acute administration of Galantamine (0.3-3 mg/kg, i.p.) increases IGF2 mRNA levels in the hippocampus, but not in the prefrontal cortex, in time- and dose-dependent manner. Galantamine (3 mg/kg, i.p.) causes a transient increase in fibroblast growth factor 2 mRNA levels and a decrease in brain-derived neurotrophic factor mRNA levels in the hippocampus, while it does not affect the mRNA levels of other neurotrophic/growth factors. The Galantamine-induced increase in the hippocampal IGF2 mRNA levels is blocked by Mecamylamine, a nonselective nicotinic acetylcholine (ACh) receptor (nAChR) antagonist, and Methyllcaconitine, a selective $\alpha 7$ nAChR antagonist, but not by Telenzepine, a preferential M1muscarinic ACh receptor antagonist. Moreover, the selective $\alpha 7$ nAChR agonist PHA-543613 increases the IGF2 mRNA levels, while Donepezil, an acetylcholinesterase inhibitor, does not. Galantamine also increases hippocampal IGF2 protein, which is blocked by Methyllcaconitine^[2].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!