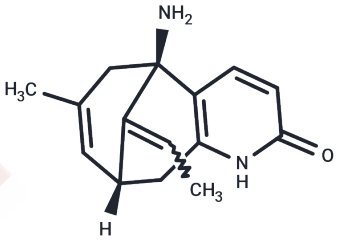
Data Sheet (Cat.No.T3026)

TargetMol

(-)-Huperzine A

Chemical Properties



CAS No. : 102518-79-6

Formula: C15H18N2O

Molecular Weight: 242.32

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	(-)-Huperzine A (HupA) , an active Lycopodium alkaloid extracted from the traditional Chinese herb, is a potent, selective and reversible acetylcholinesterase (AChE) inhibitor and has been widely used in China for the treatment of Alzheimer's disease (AD).
Targets(IC50)	Apoptosis,Cholinesterase (ChE),iGluR
In vitro	In both animal models and patients with Alzheimer's Disease (AD), (-)-Huperzine A has been shown to improve learning and memory impairments. Compared to the control group treated with saline, significant inhibition of acetylcholinesterase (AchE) activity was observed in the cortex, striatum, hippocampus, medulla, septal nuclei, cerebellum, and thalamus of rats 30 minutes post-mortem.
In vivo	Compared to tacrine, strychnine, galantamine, and carbachol, (-)-Huperzine A exhibits stronger inhibition of acetylcholinesterase (AChE) activity but has the least effect on butyrylcholinesterase (BuChE). (-)-Huperzine A protects cells against glutamate, hydrogen peroxide, β-amyloid, ischemia, and astrosporine-induced cytotoxicity and apoptosis. This protective function is achieved through a series of processes including the regulation of apoptotic protein expression (such as Bcl-2, Bax, p53, and caspase-3), alleviation of oxidative stress, mitochondrial protection, upregulation of nerve growth factor and its receptors, and interference with amyloid precursor protein metabolism. Notably, (-)-Huperzine A preferentially inhibits the tetrameric form of AChE (G4 form).

Solubility Information

Solubility	DMSO: 30 mg/mL (123.8 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1268 mL	20.6339 mL	41.2677 mL
5 mM	0.8254 mL	4.1268 mL	8.2535 mL
10 mM	0.4127 mL	2.0634 mL	4.1268 mL
50 mM	0.0825 mL	0.4127 mL	0.8254 mL

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.

Reference

Zhao Q, et al. Eur J Pharmacol, 2002, 455(2-3), 101-107.
Zhang HY, et al. Trends Pharmacol Sci, 2006, 27(12), 619-625.
Wang R, et al. Acta Pharmacol Sin, 2006, 27(1), 1-26.
Zheng CY, et al. J Neurosci Res, 2008, 86(11), 2432-2440.