

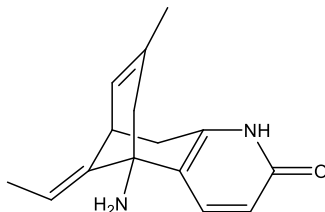
**Catalog # 10-2399**

**Huperzine A**

CAS# 102518-79-6

(-)-Huperzine A; (-)-Selagine; (5R,9R,11E)-5-Amino-11-ethylidene-7-methyl-5,6,9,10-tetrahydro-5,9-methanocycloocta[b]pyridine-2(1H)-one

Lot # X101571



A nootropic alkaloid from the club moss *Huperzia serrata* that reversibly inhibits acetylcholinesterase (AChE, preferentially the tetrameric form,  $K_i = 7$  nM)<sup>1</sup>, and antagonizes NMDA receptors ( $IC_{50}$  rat cerebral cortex = 126  $\mu$ M)<sup>2</sup>. It is thought to have cognitive-enhancing properties, including amelioration of Alzheimer's disease.<sup>3,4</sup> Recently, it has also been shown to rescue ovarian function in rats<sup>5</sup> as well as display analgesic activity in a rat spinal cord compression model<sup>6</sup>.

- 1) Zhao and Tang (2002), *Effects of huperzine A on acetylcholinesterase isoforms in vitro: comparison with tacrine, donepezil, rivastigmine and physostigmine*; Eur. J. Pharmacol., **455** 101
- 2) Zhang and Hu (2001), *Huperzine A, a nootropic alkaloid, inhibits N-methyl-D-aspartate-induced current in rat dissociated hippocampal neurons*; Neuroscience, **105** 663
- 3) Zangara (2003), *The psychopharmacology of huperzine A: an alkaloid with cognitive enhancing and neuroprotective properties of interest in the treatment of Alzheimer's disease*; Pharmacol. Biochem. Behav., **75** 675
- 4) Qan et al. (2020), *Dissolving microneedles for transdermal delivery of huperzine A for the treatment of Alzheimer's disease*; Drug Deliv., **27** 1147
- 5) Riquelme et al. (2020), *Huperzine-A administration recovers rat ovary function after sympathetic stress*; J. Neuroendocrinol., e12914
- 6) Yu et al. (2013), *Alleviation of chronic pain following rat spinal cord compression injury with multimodal actions of huperzine A*; Proc. Natl. Acad. Sci. USA, **110** E746

**PHYSICAL DATA**

Molecular Weight:	242.32
Molecular Formula:	C <sub>15</sub> H <sub>18</sub> N <sub>2</sub> O
Purity:	>98% by HPLC NMR (Conforms)
Solubility:	DMSO (20 mg/ml)
Physical Description:	White to off-white solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**