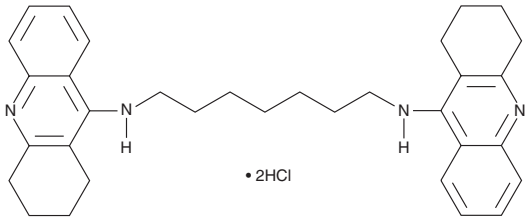
Product Information

bis(7)-Tacrine

Catalog No. 10005836

CAS Registry No.: 224445-12-9
Formal Name: N,N'-*bis*(1,2,3,4-tetrahydro-9-acridinyl)-1,7-heptanediamine, dihydrochloride
Synonym: 1,7-N-heptylene-*bis*-9,9'-amino-1,2,3,4-tetrahydro-acridine
MF: $C_{33}H_{40}N_4 \cdot 2HCl$
FW: 565.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that *bis*(7)-tacrine be stored as supplied at -20°C. It should be stable for at least two years.

bis(7)-Tacrine is supplied as a crystalline solid. A stock solution may be made by dissolving the *bis*(7)-tacrine in an organic solvent purged with an inert gas. *bis*(7)-Tacrine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of *bis*(7)-tacrine in these solvents is approximately 20 mg/ml.

bis(7)-Tacrine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, *bis*(7)-tacrine should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. *bis*(7)-Tacrine has a solubility of approximately 0.5 mg/ml in a 1:6 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Tacrine is an amino acridine compound that inhibits acetylcholinesterase (AChE), and has been proposed as a clinical treatment for Alzheimer's disease.[1] *bis*(7)-Tacrine is a tacrine dimer, linked *via* a 7-carbon alkyl spacer. It inhibits AChE with an IC_{50} of 0.40 nM, making it more than 1,000 times more potent than tacrine.[2] *bis*(7)-Tacrine also protects against hydrogen peroxide induced apoptosis in rat pheochromocytoma cells.[3]

References

1. Giacobini, E. Cholinesterase inhibitors for Alzheimer's disease therapy: From tacrine to future applications. *Neurochem. Int.* **32**, 413-419 (1998).
2. Carlier, P.R., Han, Y.F., Chow, E.S.H., *et al.* Evaluation of short-tether *Bis*-THA AChE inhibitors. A further test of the dual binding site hypothesis. *Bioorg. Med. Chem.* **7**, 351-357 (1999).
3. Hong, W., Carlier, P.R., Wing-Lok, H., *et al.* Attenuation of scopolamine-induced deficits in navigational memory performance in rats by *bis*(7)-tacrine, a novel dimeric AChE inhibitor. *Acta Pharmacol. Sin.* **20(3)**, 211-217 (1999).

Related Product

Tacrine (hydrochloride) - Cat. No. 70240

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com