

PRODUCT INFORMATION



bis(7)-Tacrine

Item 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: C₃₃H₄₀N₄ • 2HCl

FW: 565.6

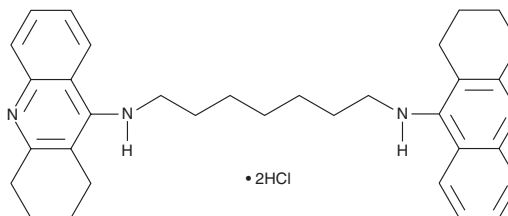
Purity: ≥98%

UV/Vis.: λ_{max}: 223, 247, 338, 351 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

bis(7)-Tacrine is supplied as a crystalline solid. A stock solution may be made by dissolving the bis(7)-tacrine in the solvent of choice, which should be purged with an inert gas. bis(7)-Tacrine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of bis(7)-tacrine in ethanol is approximately 30 mg/ml and approximately 20 mg/ml in DMSO and DMF.

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.

Description

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 IC₅₀ 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(5-6)**, 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(2)**, 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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