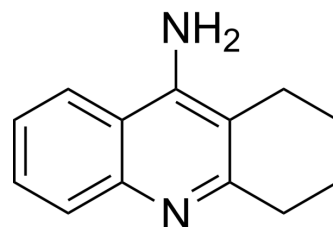


## Tacrine

Cat. No.:	HY-111338
CAS No.:	321-64-2
Molecular Formula:	C <sub>13</sub> H <sub>14</sub> N <sub>2</sub>
Molecular Weight:	198.26
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (504.39 mM)

\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	<div>Solvent</div> <div>Concentration</div>	Mass	1 mg	5 mg	10 mg
	1 mM		5.0439 mL	25.2194 mL	50.4388 mL
	5 mM		1.0088 mL	5.0439 mL	10.0878 mL
	10 mM		0.5044 mL	2.5219 mL	5.0439 mL
	Please refer to the solubility information to select the appropriate solvent.				

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (12.61 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (12.61 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: 2.5 mg/mL (12.61 mM); Suspended solution; Need ultrasonic

### BIOLOGICAL ACTIVITY

Description	Tacrine is a potent acetylcholinesterase (AChE) inhibitor (IC <sub>50</sub> =109 nM), also acting as a CYP1A2 substrate agent. Tacrine exhibits certain hepatotoxicity in some individuals. Tacrine can be used for researching Alzheimer's disease (AD) <sup>[1][2][3]</sup> .
IC <sub>50</sub> & Target	AChE

### REFERENCES

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- [1]. Patocka J, et al. Possible role of hydroxylated metabolites of tacrine in drug toxicity and therapy of Alzheimer's disease. *Curr Drug Metab.* 2008;9(4):332-335.
- [2]. Bhatt S, et al. Assessment of the CYP1A2 Inhibition-Mediated Drug Interaction Potential for Pinocembrin Using In Silico, In Vitro, and In Vivo Approaches. *ACS Omega.* 2022;7(23):20321-20331. Published 2022 Jun 2.
- [3]. Romero A, et al. Novel tacrine-related drugs as potential candidates for the treatment of Alzheimer's disease. *Bioorg Med Chem Lett.* 2013;23(7):1916-1922.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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