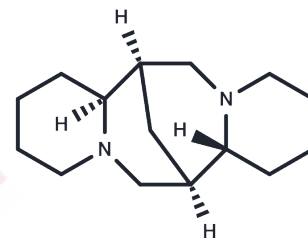


(+)-Sparteine

Chemical Properties

CAS No. :	492-08-0
Formula:	C ₁₅ H ₂₆ N ₂
Molecular Weight:	234.38
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	(+)-Sparteine is a quinoline alkaloid extracted from Scotch broom, a sodium channel blocker and a class 1a antiarrhythmic agent. It competitively inhibits the activity of nicotinic acetylcholine receptors in nerve cells and is a ganglionic blocking agent.
Targets(IC50)	AChR
In vitro	(+)-Sparteine (Pachycarpine) (2 μM) reduces ACh-induced currents caused by activation of nicotinic ACh receptors (AChRs) in a voltage-independent manner at membrane potentials between -50 mV and +30 mV; the ACh dose-response relationship is altered by 2 μM (+)-Sparteine (Pachycarpine) at -50 mV and -90 mV in a manner typical of a competitive but not competitive antagonist. [1]

Solubility Information

Solubility	DMSO: 5 mg/mL (21.33 mM), Sonication is recommended. H ₂ O: 2.86 mg/mL (12.2 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.2666 mL	21.3329 mL	42.6658 mL
5 mM	0.8533 mL	4.2666 mL	8.5332 mL
10 mM	0.4267 mL	2.1333 mL	4.2666 mL
50 mM	0.0853 mL	0.4267 mL	0.8533 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Voitenko S, et al. Effect of (+)-sparteine on nicotinic acetylcholine receptors in the neurons of rat superior cervical ganglion. Mol Pharmacol. 1991 Aug;40(2):180-5.

Villalpando-Vargas F, et al. Sparteine as an anticonvulsant drug: Evidence and possible mechanism of action. Seizure. 2016 Jul;39:49-55.

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