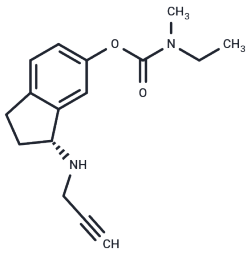
Data Sheet (Cat.No.T32535)

TargetMol

Ladostigil

Chemical Properties



CAS No. : 209394-27-4

Formula: C16H20N2O2

Molecular Weight: 272.34

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	Ladostigil (Ladostigil free base) is an orally active dual inhibitor of cholinesterase and brain-selective monoamine oxidase (MAO) with inhibitory effects on MAO-B and AChE, with IC50 values of 37.1 and 31.8 μM, respectively.Ladostigil possesses anti-inflammatory, antioxidant, and neuroprotective activities, and may be used in studies of depression and Alzheimer's disease.
Targets(IC50)	Antioxidant,MAO,Cholinesterase (ChE),Monoamine Oxidase
In vitro	Ladostigil (1-10 μM) demonstrates neuroprotective effects by preventing the decline in mitochondrial membrane potential (ψ), reducing apoptotic cascades, and inhibiting the production of reactive oxygen species (ROS) induced by OS insults.[6] Ladostigil (1-10 μM) exhibits notable neuroprotective effects in human neuroblastoma SK-N-SH cells. These effects involve the inhibition of caspase-3 activation, upregulation of Bcl-2 expression, and downregulation of Bad and Bax gene and protein expression.[6]
In vivo	Ladostigil (17 mg/kg; p.o. daily for 6 weeks) eliminates hyperanxiety and depressive-like behavior in adult rats exposed to prenatal stress, as shown in the elevated plus maze (EPM) and forced swim tests (FST).[8] Ladostigil (50 μmol/kg; single p.o.) also restores episodic memory in the object recognition test in rats.[7]

Solubility Information

Solubility	DMSO: 4.8 mg/mL (17.63 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.67 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6719 mL	18.3594 mL	36.7188 mL
5 mM	0.7344 mL	3.6719 mL	7.3438 mL
10 mM	0.3672 mL	1.8359 mL	3.6719 mL
50 mM	0.0734 mL	0.3672 mL	0.7344 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

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Bansal Y, et al. Multifunctional compounds: smart molecules for multifactorial diseases. Eur J Med Chem. 2014;76: 31-42.
Denya I, et al. Design, synthesis and evaluation of indole derivatives as multifunctional agents against Alzheimer's disease. Medchemcomm. 2018;9(2):357-370.
Weinreb O, et al. Ladostigil: a novel multimodal neuroprotective drug with cholinesterase and brain-selective monoamine oxidase inhibitory activities for Alzheimer's disease treatment. Curr Drug Targets. 2012;13(4):483-494.
Weinstock M, et al. Ladostigil, a novel multifunctional drug for the treatment of dementia co-morbid with depression. J Neural Transm Suppl. 2006;(70):443-446.
Poltyrev T, et al. Effect of chronic treatment with ladostigil (TV-3326) on anxiogenic and depressive-like behaviour and on activity of the hypothalamic-pituitary-adrenal axis in male and female prenatally stressed rats. Psychopharmacology (Berl). 2005;181(1):118-125.