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## Product Data Sheet

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Product Name: Ladostigil

Cat. No.: GC63038

### Chemical Properties

Cas. No. 209394-27-4

Formula  $C_{16}H_{20}N_2O_2$  M.Wt 272.34

Solubility DMSO : 100 mg/mL (367.19 mM; Need ultrasonic) Storage

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Ladostigil (TV-3326) is a dual inhibitor of cholinesterase and brain-selective monoamine oxidase (MAO), with an IC<sub>50</sub> of 37.1 and 31.8 μM for MAO-B and AChE, respectively. Ladostigil could increase cholinergic transmission, prevent the formation of ROS or their actions and be used for the research of depression and Alzheimer's disease[1][2].

Ladostigil (1-10 μM) exerts neuroprotective activities, including a prevention of the fall of the mitochondrial membrane potential ( $\psi$ ), attenuation of apoptotic cascades and an inhibition of ROS production induced by OS insults[2]. Ladostigil (1-10 μM) has a significant neuroprotective activity, including inhibition of caspase-3 activation, induction of Bcl-2 and reduction of Bad and Bax gene and protein expression in human neuroblastoma SK-N-SH cells[2].

Ladostigil (17 mg/kg; p.o. daily for 6 weeks) abolishes their hyperanxiety and depressive-like behaviour in the elevated plus maze (EPM) and forced swim tests (FST) tests in adulthood from puberty to prenatally-stressed rats[4]. Ladostigil (50 μmol/kg; single p.o.) restores the loss of episodic memory in the object recognition test in rats[3].

[1]. Denya I, et, al. Design, synthesis and evaluation of indole derivatives as multifunctional agents against Alzheimer's disease. Medchemcomm. 2018 Jan 16;

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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9(2):357-370.

[2]. 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 Apr; 13(4): 483-94.

[3]. Weinstock M, et, al. Ladostigil, a novel multifunctional drug for the treatment of dementia co-morbid with depression. *J Neural Transm Suppl*. 2006; (70):443-6.

[4]. Poltyrev T, et, al. Effect of chronic treatment with ladostigil (TV-3326) on angiogenic and depressive-like behaviour and on activity of the hypothalamic-pituitary-adrenal axis in male and female prenatally stressed rats. *Psychopharmacology (Berl)*. 2005 Aug;181(1): 118-25.

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