Data Sheet (Cat.No.T11802)

TargetMol

L-Canaline

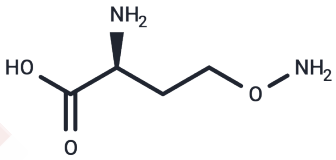
Chemical Properties

CAS No. : 496-93-5

Formula: C4H10N2O3

Molecular Weight: 134.13

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	L-Canaline, a nonprotein amino acid found in many leguminous plants, exhibits potent anticancer and antiproliferative effects. It effectively inhibits the growth of the malaria parasite Plasmodium falciparum with an IC50 of 297 nM. Additionally, L-Canaline acts as a cytotoxic metabolite produced from L-canavanine through arginase catalysis and serves as a potent and irreversible inhibitor of ornithine aminotransferase.
Targets(IC50)	Others,Endogenous Metabolite,Parasite
In vitro	L-Canaline is slightly less toxic to PBMCs stimulated via the mixed lymphocyte reaction (IC50 of 0.54 mM). L-canaline inhibits L-lysine flux competitively (Ki of 4.6 mM) in astrocytes and astrocytoma cells.L-Canaline treatment inhibits the proliferation of PBMCs after stimulation by phorbol 12-myristate-13-acetate (PMA) or via the mixed lymphocyte reaction.?The greatest effect is seen with PMA-stimulated cells, where L-canaline has an IC50 of 0.26 mM.
In vivo	Administering 100 μg of L-canaline via intraseptal injection to male Sprague-Dawley rats results in a significant 90% reduction in ornithine aminotransferase activity in septum tissues, assessed in specimens euthanized one hour post-treatment. Moreover, L-canaline lowers the aspartic acid levels in the medulla oblongata tissues of male Wistar rats, although it does not influence the stimulated release of this nonprotein amino acid into the tissues.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.4555 mL	37.2773 mL	74.5545 mL
5 mM	1.4911 mL	7.4555 mL	14.9109 mL
10 mM	0.7455 mL	3.7277 mL	7.4555 mL
50 mM	0.1491 mL	0.7455 mL	1.4911 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

Bence AK, et al. The antiproliferative and immunotoxic effects of L-canavanine and L-canaline. Anticancer Drugs. 2002 Mar;13(3):313-20.
Rosenthal GA. L-canaline: a potent antimetabolite and anti-cancer agent from leguminous plants. Life Sci. 1997; 60(19):1635-41.
Berger BJ. Antimalarial activities of aminooxy compounds. Antimicrob Agents Chemother. 2000 Sep;44(9):2540-2.