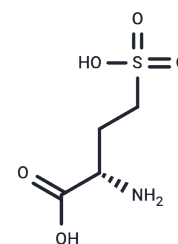


L-Homocysteic acid

Chemical Properties

CAS No. :	14857-77-3
Formula:	C4H9NO5S
Molecular Weight:	183.18
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	L-Homocysteic acid is an endogenous excitatory amino acid that acts as an NMDA receptor agonist with an EC ₅₀ of 14 μM. L-Homocysteic acid is neurotoxic and can be used in neurological disease-related research.
Targets(IC50)	Amino Acids and Derivatives,Endogenous Metabolite,NMDAR
In vitro	L-Homocysteic acid activates NMDA receptors with an EC ₅₀ of 14 μM. In Purkinje cells, 100 μM L-Homocysteic acid evokes a distinct current with an amplitude of up to 1.8 nA, and this current response cannot be blocked by a combination of NMDA receptor antagonists [1]. At a concentration of 250 μM and a duration of 30 min, L-Homocysteic acid potently induces acute excitotoxic damage in ex vivo chick embryo retinal tissue [2]. In primary rat neuron cultures, treatment with 0-2 mM L-Homocysteic acid for 48 h produces a concentration-dependent neurotoxic effect [3].
In vivo	L-Homocysteic acid (intraperitoneal injection, 4-11 mmol/kg) can induce seizures in early postnatal developing rats [4]. L-Homocysteic acid (intraperitoneal injection, 100-1500 mg/kg) can partially substitute NMDA in Sprague-Dawley rats, producing 61%-67% of the maximum NMDA lever response rate at doses of 1000 mg/kg and 560 mg/kg, respectively [5].

Solubility Information

Solubility	H2O: 80 mg/mL (436.73 mM) DMSO: 40 mg/mL (218.36 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	5.4591 mL	27.2956 mL	54.5911 mL
5 mM	1.0918 mL	5.4591 mL	10.9182 mL
10 mM	0.5459 mL	2.7296 mL	5.4591 mL
50 mM	0.1092 mL	0.5459 mL	1.0918 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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B Lockhart, et al. Inhibition of L-homocysteic acid and buthionine sulphoximine-mediated neurotoxicity in rat embryonic neuronal cultures with alpha-lipoic acid enantiomers. *Brain Res*. 2000 Feb 14;855(2):292-7.

P Mares, et al. Convulsant action of D,L-homocysteic acid and its stereoisomers in immature rats.

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