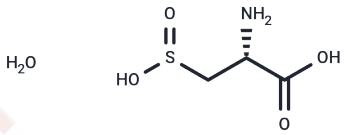
Data Sheet (Cat.No.T41301)

TargetMol

L-Cysteinesulfinic acid monohydrate

Chemical Properties



CAS No. : 207121-48-0

Formula: C3H9NO5S

Molecular Weight: 171.17

Storage: Keep away from moisture
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-Cysteinesulfinic acid monohydrate is a potent agonist at rat metabotropic glutamate receptors (mGluRs) with pEC50s of 3.92, 4.6, 3.9, 2.7, 4.0, and 3.94 for mGluR1, mGluR5, mGluR2, mGluR4, mGluR6, and mGluR8, respectively [1].
Targets(IC50)	Endogenous Metabolite,GluR
In vitro	L-Cysteinesulfinic acid (monohydrate) serves as an innate activator for the phospholipase D (PLD)-linked metabotropic excitatory amino acids (EAA) receptor, selectively triggering the PLD-associated mechanism. When applied to hippocampal slices, 1 mM concentrations of L-CSA (monohydrate) significantly enhance PLD activity, unlike similar doses of L-glutamate, L-aspartate, and L-HCA, which show no effect. Furthermore, L-CSA (monohydrate) prompts a dose-responsive elevation in PLD activity in these slices, even when iGluR antagonists are present, with the potency around an EC50 of 500 uM. Notably, the response to 1 mM L-CSA (monohydrate) in augmenting PLD activity remains unaltered by 1 uM tetrodotoxin, indicating that the effect is not reliant on an increase in neuronal activity[1].

Solubility Information

Solubility	H2O: 120 mg/mL (701.06 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.8421 mL	29.2107 mL	58.4215 mL
5 mM	1.1684 mL	5.8421 mL	11.6843 mL
10 mM	0.5842 mL	2.9211 mL	5.8421 mL
50 mM	0.1168 mL	0.5842 mL	1.1684 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

Shi Q, et al. L-homocysteine sulfinic acid and other acidic homocysteine derivatives are potent and selective metabotropic glutamate receptor agonists. J Pharmacol Exp Ther. 2003 Apr;305(1):131-42.
Boss V, et al. L-cysteine sulfinic acid as an endogenous agonist of a novel metabotropic receptor coupled to stimulation of phospholipase D activity.