

Product Data Sheet

Product Name: L-Cysteinesulfinic Acid (hydrate)

Cat. No.: GC46165

Chemical Properties

Cas. No. 207121-48-0

SMILES OC([C@@H](N)CS(=O)=O)=O.O

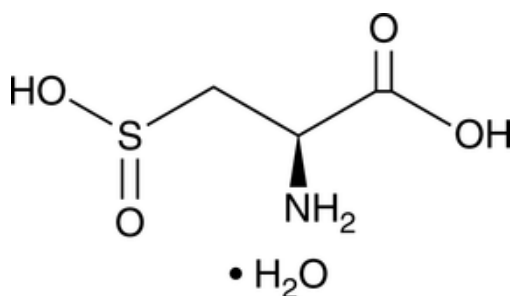
Formula $C_3H_7NO_4S \cdot H_2O$ M.Wt 171.2

Solubility DMSO: 10 mg/ml, PBS (pH 7.2): 10 mg/ml Storage Store at -20°C

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

L-Cysteinesulfinic acid is an excitatory amino acid and agonist of metabotropic glutamate receptors (mGluRs).^{1,2} It increases intracellular inositol phosphate levels in CHO cells expressing mGluR1, mGluR5, or mGluR8 (EC₅₀s = 120, 30, and 110 μM, respectively) and inhibits forskolin-induced cAMP production in CHO cells expressing mGluR2 or mGluR6 and hamster kidney cells expressing mGluR4 (EC₅₀s = 100, 100, and 2,000 μM, respectively).² It selectively binds to mGluR1α (K_i = 3,510 nM) over adrenergic, dopamine, histamine, muscarinic, nicotinic, or serotonin receptors (K_is = >10,000 nM for all). L-Cysteinesulfinic acid (1 mM) decreases mean arterial blood pressure and heart rate in rats when microinjected into the nucleus tractus solitarius (NTS).¹ L-Cysteinesulfinic acid can be formed via oxidation of L-cysteine by reactive oxygen species (ROS), and conversion of cysteine to L-cysteinesulfinic acid in cysteine-containing peptide probes has been used to measure oxidative

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

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Product Data Sheet

stress.3

|1. Takemoto, Y. Cardiovascular actions of L-cysteine and L-cysteine sulfinic acid in the nucleus tractus solitarius of the rat. *Amino Acids* 46(7), 1707-1713 (2014).|2. Shi, Q., Savage, J.E., Hufeisen, S.J., et al. L-homocysteine sulfinic acid and other acidic homocysteine derivatives are potent and selective metabotropic glutamate receptor agonists. *J. Pharmacol. Exp. Ther.* 305(1), 131-142 (2003).|3. Keng, C.-L., Lin, Y.-C., Tseng, W.-L., et al. Design of peptide-based probes for the microscale detection of reactive oxygen species. *Anal. Chem.* 89(20), 10883-10888 (2017).

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