(S)-2-Aminohexanedioic acid

Cat. No.: HY-W013665

CAS No.: 1118-90-7

Molecular Formula: $C_6H_{11}NO_4$

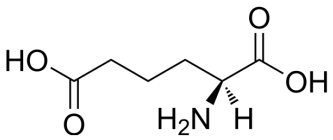
Molecular Weight: 161.16

Target: Biochemical Assay Reagents

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

1M HCl : 50 mg/mL (310.25 mM; ultrasonic and adjust pH to 1 with HCl)

DMSO : 10 mg/mL (62.05 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	6.2050 mL	31.0251 mL	62.0501 mL
5 mM	1.2410 mL	6.2050 mL	12.4100 mL
10 mM	0.6205 mL	3.1025 mL	6.2050 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

(S)-2-Aminohexanedioic acid is a biochemical reagent that can be used as a biological material or organic compound for life science related research.

In Vitro

Ki value of 209 μML-α-Aminoadipic Acid is a glutamine synthetase inhibitor. Glutamine synthetase is an enzyme that plays an essential role in the metabolism of nitrogen by catalyzing the condensation of glutamate and ammonia to form glutamine.In vitro: Previous study found that DL-and L-alpha-aminoadipic acid (alpha-AA) were specific gliotoxins in vitro. HPLC analysis of cultures incubated with D-or L-alpha-AA and DL-[14C]-alpha-AA autoradiograms conducted in the presence of D-or L-alpha-AA suggested a stereospecificity of astroglial L-alpha-AA uptake. Both the uptake of alpha-AA by astrocytes and alpha-AA-induced gliotoxicity were sodium dependent. Another study found that the L-isomer of alpha aminoadipate was able to competitively inhibit the transport protein, whereas the D-isomer of alpha aminoadipate was ineffective. Moreover, it was found that L-alpha aminoadipate was a competitive inhibitor of both glutamine synthetase, and gamma-glutam ylcysteine synthetase. In Constrast, the D-isomer of alpha aminoadipate was a far weaker inhibitor of either enzyme.In vivo: Animal study showed that La-aminoadipic acid could lower the levels of endogenous extracellular kynurenic acid in the hippocampus in a dose-dep endent fashion), though the effect of La-aminoadipic acid seemed to be less

pronounced than its reduction of de novo produced kynurenic acid . Clinical trial: So far, no clinical study has been conducted. References: Huck, S. ,Grass, F., and Hrtnagl, H. The glutamate analogue α-aminoadipic acid is taken up by astrocytes before exerting its gliotoxic effect in vitro. Journal of Neuroscience 4(10), 2650-2657 (1984). McBean GJ. Inhibition of the glutamate transporter and glial enzymes in rat striatum by the gliotoxin, alpha aminoadipate. Br J Pharmacol. 1994 Oct;113(2):536-40. Wu HQ, Ungerstedt U, Schwarcz R. L-alpha-aminoadipic acid as a regulator of kynurenic acid production in the hippocampus: a microdialysis study in freely moving rats. Eur J Pharmacol. 1995 Jul 25;281(1):55-61.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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