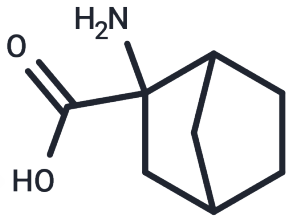
Data Sheet (Cat.No.T11820)

TargetMol

LAT1-IN-1

Chemical Properties



CAS No. : 20448-79-7

Formula: C8H13NO2

Molecular Weight: 155.19

Appearance: no data available

Storage: keep away from direct sunlight,keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	LAT1-IN-1 (BCH) is a selective and competitive inhibitor of L-type amino acid transporter protein 1 (LAT1). LAT1-IN-1 has antitumor activity, inducing apoptosis in tumor cells and inhibiting cell proliferation.
Targets(IC50)	Apoptosis
In vitro	LAT1-IN-1 (30 mM; 0-24 hours; KYSE30 and KYSE150 cells) treatment decreases phosphorylation of 4E-BP1 and p70S6K at 30 minutes and the decrease is continued for 24 hours. The amount of mTOR, 4E-BP1, and p70S6K proteins is slightly decreased.LAT1-IN-1 (1-100 mM;?3 days;?KYSE30 and KYSE150 esophageal cancer cells) treatment suppresses cell proliferation in a dose-dependent manner.?LAT1-IN-1 (30 mM;?24 and 48 hours;?KYSE30 and KYSE150 cells) treatment significantly increases cell population in the G0/G1 phase in both KYSE30 and KYSE150 cells, indicating that LAT1-IN-1 induces cell cycle arrest at G1 phase.
In vivo	LAT1-IN-1 (200 mg/kg;?intravenous injection;?daily;?for 14 days;?male BALB/c nude mice) treatment significantly delays tumor growth and decreases glucose metabolism, indicating that LAT1 inhibition potentially suppresses esophageal cancer growth in vivo.

Solubility Information

Solubility	H2O: 50 mg/mL (322.19 mM),Sonication is recommended. DMSO: 1.6 mg/mL (10.31 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.4437 mL	32.2186 mL	64.4371 mL
5 mM	1.2887 mL	6.4437 mL	12.8874 mL
10 mM	0.6444 mL	3.2219 mL	6.4437 mL
50 mM	0.1289 mL	0.6444 mL	1.2887 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.

Reference

Ohshima Y, et al. Efficacy of system l amino acid transporter 1 inhibition as a therapeutic target in esophageal squamous cell carcinoma. Cancer Sci. 2016 Oct;107(10):1499-1505.
Jiang R, Jin B, Sun Y, et al.SLC7A5 regulates tryptophan uptake and PD-L1 expression levels via the kynurenine pathway in ovarian cancer.Oncology Letters.2025, 29(1): 1-15.
Hong X L, Huang C K, Qian H, et al.Positive feedback between arginine methylation of YAP and methionine transporter SLC43A2 drives anticancer drug resistance.Nature Communications.2025, 16(1): 87.
Luo W, et al. L-type amino acid transporter 1 promotes proliferation and invasion of human chorionic trophoblast and choriocarcinoma cells through mTORC1. Am J Transl Res. 2020 Oct 15;12(10):6665-6681.
Wang Q, et al. L-type amino acid transport and cancer: targeting the mTORC1 pathway to inhibit neoplasia. Am J Cancer Res. 2015 Mar 15;5(4):1281-94. eCollection 2015.

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