DL-Buthionine-(S,R)-sulfoximine hydrochloride

Cat. No.: HY-106376B

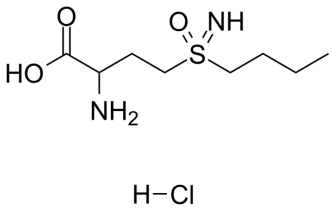
Molecular Formula: $C_8H_{19}ClN_2O_3S$

Molecular Weight: 258.77

Target: Ferroptosis

Pathway: Apoptosis

Storage: -20°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (386.44 mM; Need ultrasonic)
DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.8644 mL	19.3222 mL	38.6444 mL
5 mM	0.7729 mL	3.8644 mL	7.7289 mL
10 mM	0.3864 mL	1.9322 mL	3.8644 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (386.44 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

DL-Buthionine-(S,R)-sulfoximine hydrochloride (Buthionine sulfoximine hydrochloride) is a potent inhibitor of glutamylcysteine synthetase biosynthesis.

IC_{50} & Target

Glutamylcysteine synthetase[1]

In Vitro

Buthionine sulfoximine is an analogs of methionine sulfoximine and inhibits gamma-glutamylcysteine synthetase about 20 times more effectively than prothionine sulfoximine and at least 100 times more effectively than methionine sulfoximine[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Treatment of mice bearing HT1080 and HT1080/DR4 xenografts with a continuous i.v infusion of nontoxic doses of D,L-Buthionine-(S,R)-sulfoximine (300 and 600 mg/kg/day) produce a 60% reduction of GSH plasma levels and greater than 95 % reduction in GSH tumor levels in both parental and multidrug-resistant tumors[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2023 Jun 17;e2206798.
- Nucleic Acids Res. 2020 Sep 18;48(16):9109-9123.
- Small. 2021 Nov 1;e2103984.
- Ecotoxicol Environ Saf. 2022 Dec 1;247:114263.
- Ecotoxicol Environ Saf. 2022, 247: 114263.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Griffith OW, et al. Potent and specific inhibition of glutathione synthesis by buthionine sulfoximine (S-n-butyl homocysteine sulfoximine). J Biol Chem. 1979 Aug 25;254(16):7558-60.

[2]. Vanhoefer U, et al. d,l-buthionine-(S,R)-sulfoximine potentiates in vivo the therapeutic efficacy of doxorubicin against multidrug resistance protein-expressing tumors. Clin Cancer Res. 1996 Dec;2(12):1961-8.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA