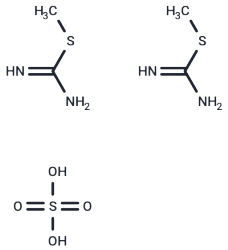
Data Sheet (Cat.No.T22419)

TargetMol

S-Methylisothiourea sulfate

Chemical Properties



CAS No. : 867-44-7

Formula: C2H6N2S·1/2H2O4S

Molecular Weight: 139.18

Storage: 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	S-Methylisothiourea sulfate ((S)-Methylisothiourea sulfate) is a potent and selective inhibitor of iNOS and exerts beneficial effects in rodent models of septic shock[1].
Targets(IC50)	NOS,NO Synthase,HSV
In vitro	S-Methylisothiourea sulfate is a competitive inhibitor of iNOS activity at the L-arginine site. The effect of S-Methylisothiourea sulfate on iNOS activity can be reversed by excess L-arginine in a concentration-dependent manner. S-Methylisothiourea sulfate (up to 1 mM) does not inhibit the activity of xanthine oxidase, diaphorase, lactate dehydrogenase, monoamine oxidase, catalase, cytochrome P450, or superoxide dismutase. S-Methylisothiourea sulfate prevents the NO-mediated cytotoxic effect of LPS in cultured macrophages. S-Methylisothiourea sulfate (100 nM-100 μM) exhibits inhibitory effects on LPS (ug/mL)-induced nitrite production in J774.2 macrophages and rat aortic vascular smooth muscle cells[1].
In vivo	S-Methylisothiourea sulfate dose-dependently reverses (0.01-3 mg/kg) the hypotension and the vascular hyporeactivity to vasoconstrictor agents caused by endotoxin [bacterial lipopolysaccharide (LPS), 10 mg/kg, i.v.] in anesthetized rats. Moreover, therapeutic administration of S-Methylisothiourea sulfate (5 mg/kg, i.p., given 2 hr after LPS, 10 mg/kg, i.p.) attenuates the rises in plasma alanine and aspartate aminotransferases, bilirubin, and creatinine and also prevents hypocalcaemia when measured 6 hr after administration of LPS. S-Methylisothiourea sulfate (1 mg/kg, i.p.) improves 24-hr survival of mice treated with a high dose of LPS (60 mg/kg, i.p.)[1].
Animal Research	S-Methylisothiourea sulfate (Male Wistar rats (260-320 g); 0.01 mg/kg, 0.1 mg/kg, 1 mg/kg, 3 mg/kg; Intravenous injection) caused a prompt restoration of the blood pressure to pre-LPS levels at 3 mg/kg dose in LPS (10 mg/kg, i.v.)-treated rats and also inhibited iNOS activity measured in homogenates of lung[1].

Solubility Information

Solubility	H2O: 60 mg/mL (431.1 mM),Sonication is recommended. DMSO: < 1 mg/mL (insoluble or slightly soluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.1849 mL	35.9247 mL	71.8494 mL
5 mM	1.437 mL	7.1849 mL	14.3699 mL
10 mM	0.7185 mL	3.5925 mL	7.1849 mL
50 mM	0.1437 mL	0.7185 mL	1.437 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

Balter-Seri J, et al. Infect Immun. 1999, 67(12):6364-8.
Szabó C, et al. Proc Natl Acad Sci U S A. 1994, 91(26):12472-6.
Afulukwe IF, et al. Am J Respir Crit Care Med. 2000, 162(1):21-6.