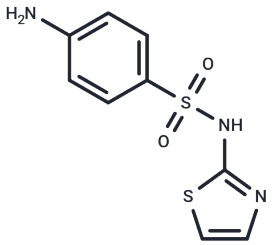
Data Sheet (Cat.No.T0747)

TargetMol

Sulfathiazole

Chemical Properties



CAS No. : 72-14-0

Formula: C9H9N3O2S2

Molecular Weight: 255.32

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	Sulfathiazole (2-Sulfanilamidothiazole), an organosulfur compound, has been served as a short-acting sulfa medicine.
Targets(IC50)	Antibacterial,Antibiotic,Autophagy
In vitro	Sulfathiazole (20 μg/L) begins degrading between days 31 and 38 in one of two batch reactors with different wastewater matrices, at a faster rate than sulfamethoxazole or sulfamethazine in the nitrification process (S3). [1] Recovery from spiked manure slurry samples is 64% for Sulfathiazole at pH 9. Sulfathiazole, with a pKa of 7.1 and retention times (tR) of 7.8, shows S/N values above 100 at the 1 mg/kg level. [2] Its sorption to inorganic sorbents is pH-dependent, influenced by sorbate speciation and sorbent charge properties, with cations being most significant for clay mineral sorption, followed by neutral species. [3] Sulfathiazole possesses at least five polymorphic forms: I, II, III, IV, and V and exists in the solid state in the imido form. [4] Sulfathiazole (94.9 mg/L) significantly increases reactive oxygen species (ROS) generation and lipid peroxidation under ultraviolet B (UV-B) light exposure, upregulates alpha-esterase, hemoglobin, and vitellogenin mRNA, and significantly affects daphnid survival. [5]

Solubility Information

Solubility	DMSO: 250 mg/mL (979.16 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (39.17 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9167 mL	19.5833 mL	39.1665 mL
5 mM	0.7833 mL	3.9167 mL	7.8333 mL
10 mM	0.3917 mL	1.9583 mL	3.9167 mL
50 mM	0.0783 mL	0.3917 mL	0.7833 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

Pérez S, et al. Environ Toxicol Chem, 2005, 24(6), 1361-136
Haller MY, et al. J Chromatogr A, 2002, 952(1-2), 111-120.
Kahle M, et al. Chemosphere, 2007, 68(7), 1224-1231.
Bellu S, et al. Quim Nova, 2003, 26(2), 188-192.
Kim J, et al. Aquat Toxicol, 2009, 91(1), 87-94.