Data Sheet (Cat.No.T0123)

TargetMol

Sulfanilamide

Chemical Properties

CAS No. : 63-74-1

Formula: C6H8N2O2S

Molecular Weight: 172.20

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	Sulfanilamide (UK-124) can competitively inhibit bacterial enzyme dihydropteroate synthetase with IC50 of 320 μM.
Targets(IC50)	Antibacterial,Antibiotic,Autophagy
In vitro	Sulfanilamide was able to inhibit a recombinant yeast strain with a wild-type FOL1 gene with an IC50 of 286.8 μg/mL, but a single mutation in the active region of the fungal dihydropyrimidine synthase from 55Trp to 55Ala or 57Pro to 57Ser resulted in resistance to Sulfanilamide with an IC50 >800 μg/mL. /The sulfonamide group of Sulfanilamide inhibits dihydropyridine synthase purified from E. coli. p-Aminobenzoic acid synthesis is used for essential folic acid in the synthesis of purines, pyrimidines, and other amino acids. The IC50 of Sulfanilamide was 320 μM for dihydropyridine synthase, and the Km was 2.5 uM for PABA. Sulfanilamide was able to inhibit the growth of Plasmodium falciparum-containing pKOS-pfPPPK-DHPS(His) bacterial cells to a certain extent with an IC50 of 380 uM.
In vivo	Sulfanilamide was able to inhibit a recombinant yeast strain with a wild-type FOL1 gene with an IC50 of 286.8 μg/mL, but a single mutation in the active region of the fungal dihydropyrimidine synthase from 55Trp to 55Ala or 57Pro to 57Ser resulted in resistance to Sulfanilamide with an IC50 >800 μg/mL. /The sulfonamide group of Sulfanilamide inhibits dihydropyridine synthase purified from E. coli. p-Aminobenzoic acid synthesis is used for essential folic acid in the synthesis of purines, pyrimidines, and other amino acids. The IC50 of Sulfanilamide was 320 μM for dihydropyridine synthase, and the Km was 2.5 uM for PABA. Sulfanilamide was able to inhibit the growth of Plasmodium falciparum-containing pKOS-pfPPPK-DHPS(His) bacterial cells to a certain extent with an IC50 of 380 uM.

Solubility Information

Solubility	DMSO: 260 mg/mL (1509.87 mM),Sonication is recommended. H2O: 11.06 mg/mL (64.23 mM),Sonication is recommended. Ethanol: 14 mg/mL (81.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (58.07 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (11.61 mM),Sonication is recommended. *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	5.8072 mL	29.036 mL	58.072 mL
5 mM	1.1614 mL	5.8072 mL	11.6144 mL
10 mM	0.5807 mL	2.9036 mL	5.8072 mL
50 mM	0.1161 mL	0.5807 mL	1.1614 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

McCullough JL, et al. Antimicrob Agents Chemother, 1973, 3(6), 665-669.
Meneau I, et al. Antimicrob Agents Chemother, 2004, 48(7), 2610-2616.
Kasekarn W, et al. Mol Biochem Parasitol, 2004, 137(1), 43-53.
Hughes WT, et al. Antimicrob Agents Chemother, 1996, 40(4), 962-965.