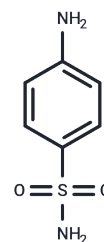


## Sulfanilamide

## Chemical Properties

CAS No. :	63-74-1
Formula:	C <sub>6</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub> S
Molecular Weight:	172.2
Appearance:	no data available
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year



## Biological Description

Description	Sulfanilamide (UK-124) can competitively inhibit bacterial enzyme dihydropteroate synthetase with IC <sub>50</sub> of 320 μM.
Targets(IC <sub>50</sub> )	Antibacterial,Antibiotic,Autophagy
In vitro	Sulfanilamide was able to inhibit a recombinant yeast strain with a wild-type FOL1 gene with an IC <sub>50</sub> 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 IC <sub>50</sub> >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 IC <sub>50</sub> of Sulfanilamide was 320 μM for dihydropyridine synthase, and the K <sub>m</sub> 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 IC <sub>50</sub> of 380 uM.
In vivo	Sulfanilamide was able to inhibit a recombinant yeast strain with a wild-type FOL1 gene with an IC <sub>50</sub> 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 IC <sub>50</sub> >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 IC <sub>50</sub> of Sulfanilamide was 320 μM for dihydropyridine synthase, and the K <sub>m</sub> 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 IC <sub>50</sub> of 380 uM.

## Solubility Information

Solubility	DMSO: 50 mg/mL (290.36 mM),Sonication is recommended. H <sub>2</sub> O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 14 mg/mL (81.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### 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.

### 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.

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