Sulfadiazine

Cat. No.: HY-B0273

CAS No.: 68-35-9

Molecular Formula: $C_{10}H_{10}N_4O_2S$

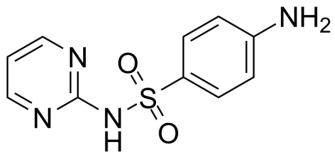
Molecular Weight: 250.28

Target: Bacterial; Parasite; Antibiotic

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (199.78 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9955 mL	19.9776 mL	39.9552 mL
5 mM	0.7991 mL	3.9955 mL	7.9911 mL
10 mM	0.3996 mL	1.9978 mL	3.9955 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.99 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (9.99 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description Sulfadiazine is a sulfonamide antibiotic with antimalarial activity. Sulfadiazine can be used for toxoplasmosis research[1][2].

IC_{50} & Target Toxoplasma

In Vivo In this study, the effectiveness of Sulfadiazine and Pyrimetamine for the treatment of mice during acute infection with

different atypical T. gondii strains was evaluated. Swiss mice were infected with seven T. gondii strainsl. The infected mice were treated with 10-640 mg/kg per day of Sulfadiazine, 3-200 mg/kg per day of Pyrimetamine, or a combination of both drugs with a lower dosage. A descriptive analysis was used to assess the association between susceptibility to Sulfadiazine and/or Pyrimetamine and the genotype. The TgCTBr4 and TgCTBr17 strains (genotype 108) presented lower susceptibility to Sulfadiazine or Pyrimetamine treatment. The TgCTBr1 and TgCTBr25 strains (genotype 206) presented similar susceptibility to PYR but not Sulfadiazine treatment. The TgCTBr9 strain (genotype 11) was the only strain with high susceptibility to treatment with both drugs[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell. 2024 Feb 15;187(4):882-896.e17
- Water Res. 2023 May 21, 120110.
- Theranostics. 2022 Jan 1;12(3):1187-1203.
- Chemosphere. 2023 Jul 17;139541.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Kopmann C, et al. Abundance and transferability of antibiotic resistance as related to the fate of sulfadiazine in maize rhizosphere and bulk soil. FEMS Microbiol Ecol. 2013 Jan;83(1):125-34.

[2]. Silva LA, et al. Efficacy of sulfadiazine and pyrimetamine for treatment of experimental toxoplasmosis with strains obtained from human cases of congenital disease in Brazil. Exp Parasitol. 2019 Jul;202:7-14.

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