Sulfadiazine sodium

Cat. No.: HY-B0273A

CAS No.: 547-32-0

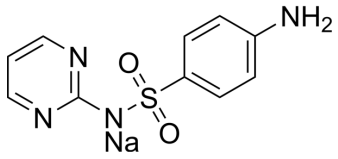
Molecular Formula: $C_{10}H_9N_4NaO_2S$

Molecular Weight: 272.26

Target: Bacterial; Parasite; Antibiotic

Pathway: Anti-infection

Storage: 4°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (459.12 mM; Need ultrasonic)
H_2O : 100 mg/mL (367.30 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.6730 mL	18.3648 mL	36.7296 mL
	5 mM	0.7346 mL	3.6730 mL	7.3459 mL
	10 mM	0.3673 mL	1.8365 mL	3.6730 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: ≥ 2.08 mg/mL (7.64 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.64 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sulfadiazine sodium 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 sodium 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 sodium, 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 sodium and/or Pyrimetamine and the genotype. The TgCTBr4 and TgCTBr17 strains (genotype 108) presented lower susceptibility to sodium or Pyrimetamine treatment. The TgCTBr1 and TgCTBr25 strains (genotype 206) presented similar susceptibility to PYR but not sodium 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.

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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.

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