Sulfapyridine

Cat. No.: HY-B0212

CAS No.: 144-83-2

Molecular Formula: $C_{11}H_{11}N_3O_2S$

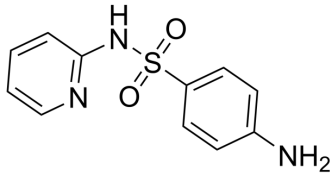
Molecular Weight: 249.29

Target: Bacterial; 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 : 60 mg/mL (240.68 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.0114 mL	20.0570 mL	40.1139 mL
	5 mM	0.8023 mL	4.0114 mL	8.0228 mL
	10 mM	0.4011 mL	2.0057 mL	4.0114 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: ≥ 3 mg/mL (12.03 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3 mg/mL (12.03 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (12.03 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sulfapyridine, a major metabolite of Sulfasalazine, is a sulfonamide antibiotic agent. Sulfapyridine inhibits recombinant *P. carinii* dihydropteroate synthetase (DHPS) with an IC_{50} of 0.18 μM. Sulfapyridine has antibacterial, anti-inflammatory and anti-rheumatic activities[1][2][3].

In Vitro

Sulfapyridine inhibits production of IL-8, chemokine (C-X-C motif) ligand 1 (CXCL1), and monocyte chemotactic protein-1 (MCP-1) in synovial cells of rheumatoid arthritis (RA)[1].

	MIC range of Sulfapyridine for Y. enterocolitica is 3.1-25 μg/mL and for Salmonella 25-100 μg/mL. Campylobacter jejuni/coli are less susceptible to Sulfapyridine with MIC values ranging from 200 to 800 μg/mL. Shigella and three of five E. coli strains are resistant to 1600 μg/mL of sulfapyridine. Two strains of E. coli are inhibited by 25 μg/mL[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Sulfapyridine (1 and 10 μg/kg; i.p.) significantly inhibits systemic allergic reaction induced by compound 48/80 in rats[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kazuki Omoteyama, et al. Effects of salazosulfapyridine on the profile of cell surface proteins, revealed by biotinylation of cell surface proteins and 2-dimentional electrophoresis. Biochim Biophys Acta Proteins Proteom. 2019 Jan;1867(1):47-56.

[2]. J J Andreasen, et al. In vitro susceptibility of diarrhoea producing gram negative enteric bacteria to sulfasalazine, 5-aminosalicylic acid, sulfapyridine and four quinolones. Brief report. APMIS. 1988 Jun;96(6):568-70.

[3]. Y L Hong, et al. Inhibition of recombinant Pneumocystis carinii dihydropteroate synthetase by sulfa drugs. Antimicrob Agents Chemother. 1995 Aug;39(8):1756-63.

[4]. H M Kim, et al. Inhibitory effect of mast cell-mediated immediate-type allergic reactions by sulfapyridine. Immunopharmacol Immunotoxicol. 2000 May;22(2):253-66.

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