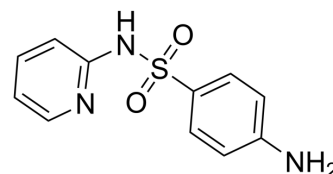


## Sulfapyridine

Cat. No.:	HY-B0212
CAS No.:	144-83-2
Molecular Formula:	C <sub>11</sub> H <sub>11</sub> N <sub>3</sub> O <sub>2</sub> S
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 <sub>2</sub> O : < 0.1 mg/mL (insoluble)				
	Preparing Stock Solutions	<div>Solvent Concentration</div> <div>Mass</div>	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 <i>P. carinii</i> dihydropteroate synthetase (DHPS) with an IC <sub>50</sub> of 0.18 μM. Sulfapyridine has antibacterial, anti-inflammatory and anti-rheumatic activities <sup>[1][2][3]</sup> .
In Vitro	Sulfapyridine inhibits production of IL-8, chemokine (C-X-C motif) ligand 1 (CXCL1), and monocyte chemoattractant protein-1 (MCP-1) in synovial cells of rheumatoid arthritis (RA) <sup>[1]</sup> .

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

## 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-dimensional 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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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