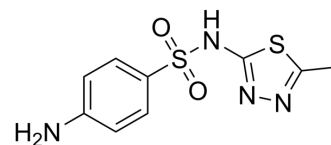


## Sulfamethizole

<b>Cat. No.:</b>	HY-B0333		
<b>CAS No.:</b>	144-82-1		
<b>Molecular Formula:</b>	C <sub>9</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub> S <sub>2</sub>		
<b>Molecular Weight:</b>	270.33		
<b>Target:</b>	Bacterial; Bacterial; Antibiotic		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (369.92 mM)  
 \* "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
<b>1 mM</b>	3.6992 mL	18.4959 mL	36.9918 mL
<b>5 mM</b>	0.7398 mL	3.6992 mL	7.3984 mL
<b>10 mM</b>	0.3699 mL	1.8496 mL	3.6992 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.5 mg/mL (9.25 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.5 mg/mL (9.25 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Sulfamethizole is a sulfathiazole antibacterial agent. Target: Antibacterial. Sulfamethizole is a sulfathiazole antibacterial agent. Sulfamethizole is a competitive inhibitor of bacterial para-aminobenzoic acid (PABA), a substrate of the enzyme dihydropteroate synthetase. The inhibited reaction is necessary in these organisms for the synthesis of folic acid. Sulfamethizole, an inhibitor of dihydropteroate synthetase and the formation of folic acid, inhibited bioluminescence more than growth [1]. Treatment with sulfamethizole resulted in a significant reduction in bacterial counts in all samples from a susceptible strain (MIC, 128 micro g/ml) and a resistant strain (MIC, 512 micro g/ml). Infection with a sulIII gene-positive strain (MIC, >2,048 micro g/ml) could not be treated with sulfamethizole, as no effect could be demonstrated in the urine, bladder, or kidneys [2].

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## REFERENCES

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- [1]. Watanabe, H. and J.W. Hastings, Inhibition of bioluminescence in *Photobacterium phosphoreum* by sulfamethizole and its stimulation by thymine. *Biochim Biophys Acta*, 1990. 1017(3): p. 229-34.
- [2]. Kern, M.B., N. Frimodt-Moller, and F. Espersen, Effects of sulfamethizole and amdinocillin against *Escherichia coli* strains (with various susceptibilities) in an ascending urinary tract infection mouse model. *Antimicrob Agents Chemother*, 2003. 47(3): p. 1002-9.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA