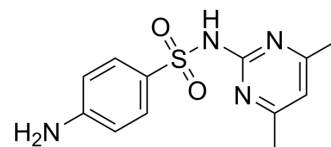


## Sulfamethazine

<b>Cat. No.:</b>	HY-B0035		
<b>CAS No.:</b>	57-68-1		
<b>Molecular Formula:</b>	C <sub>12</sub> H <sub>14</sub> N <sub>4</sub> O <sub>2</sub> S		
<b>Molecular Weight:</b>	278.33		
<b>Target:</b>	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

<b>In Vitro</b>	DMSO : 100 mg/mL (359.29 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	3.5929 mL	17.9643 mL	35.9286 mL
		5 mM	0.7186 mL	3.5929 mL	7.1857 mL
10 mM		0.3593 mL	1.7964 mL	3.5929 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (8.98 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (8.98 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (8.98 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Sulfamethazine (Sulfadimidine) is an antimicrobial that is widely used to treat and prevent various animal diseases (such as gastrointestinal and respiratory tract infections). In China and the European Commission, the maximum residue level for Sulfamethazine in animal product is set at 100 µg/kg <sup>[1][2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Bacterial <sup>[1]</sup>
<b>In Vivo</b>	Sulfamethazine (80 mg/kg; intravenous injection; healthy female pigs) treatment significantly reduces α, β and AUC <sub>0-∞</sub> ,

significantly increases  $t_{1/2\alpha}$ , Vd and CIB, and upon a single intramuscular administration of 80 mg/kg of Sulfamethazine the absolute bioavailability in pigs is 1.01<sup>[1]</sup>.

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

Animal Model:	19 healthy female pigs (6-week-old, 4.5-6.2 kg) <sup>[1]</sup>
Dosage:	80 mg/kg
Administration:	Intravenous injection (Pharmacokinetic study)
Result:	The half-life in distribution phase is 0.23 h and half-lives in eliminations phase is 9.8 h. $\alpha$ , $\beta$ and the $AUC_{0-\infty}$ were significantly decreased and $t_{1/2\alpha}$ , Vd and CIB were significantly increased, and the absolute bioavailability in pigs is 1.01.

## CUSTOMER VALIDATION

- Chemosphere. 2019 Jun;225:378-387.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. VAN Poucke LSG, et al. Pharmacokinetics and Tissue Residues of Sulfathiazole and Sulfamethazine in Pigs. J Food Prot. 1994 Sep;57(9):796-801.

[2]. Sheng Y J, et al. Production of chicken yolk IgY to sulfamethazine: comparison with rabbit antiserum IgG. Food and Agricultural Immunology. 2015, 26(3):305-316.

**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