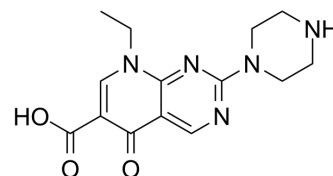


Pipemidic acid

Cat. No.:	HY-B1210		
CAS No.:	51940-44-4		
Molecular Formula:	C ₁₄ H ₁₇ N ₅ O ₃		
Molecular Weight:	303.32		
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

1M NaOH : 100 mg/mL (329.68 mM; ultrasonic and adjust pH to 12 with NaOH)
 DMSO : 5 mg/mL (16.48 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.2968 mL	16.4842 mL	32.9685 mL
	5 mM	0.6594 mL	3.2968 mL	6.5937 mL
	10 mM	0.3297 mL	1.6484 mL	3.2968 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: ≥ 0.5 mg/mL (1.65 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 0.5 mg/mL (1.65 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 0.5 mg/mL (1.65 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pipemidic acid, a derivative of Piromidic acid, is an antibacterial agent. Pipemidic acid inhibits DNA gyrase. Pipemidic acid is active against gram-negative bacteria including *Pseudomonas aeruginosa* as well as some gram-positive bacteria. Pipemidic acid can be used for the research of intestinal, urinary, and biliary tract infections^{[1][2]}.

In Vitro

Pipemidic acid is an inhibitor of DNA gyrase that is a bacterial enzyme which catalyzes the ATP-dependent negative supercoiling of DNA^[2].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Pipemidic acid (50 mg/kg) is absorbed well by the oral route, and the peak levels in plasma ranged from 4 to 12 µg/mL in mice, rats, dogs, monkeys ^[3] . The mean lethal dose of Pipemidic acid after a single oral dose was more than 16000 mg/kg in mice ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Aoyama H, et, al. Purification of *Citrobacter freundii* DNA gyrase and inhibition by quinolones. *Antimicrob Agents Chemother.* 1988 Jan;32(1):104-9.
- [2]. Shimizu M, et, al. Pipemidic acid: absorption, distribution, and excretion. *Antimicrob Agents Chemother.* 1975 Apr;7(4):441-6.
- [3]. Iacovino R, et al. β -Cyclodextrin inclusion complex to improve physicochemical properties of pipemidic acid: characterization and bioactivity evaluation. *Int J Mol Sci.* 2013 Jun 25;14(7):13022-41.
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Caution: Product has not been fully validated for medical applications. For research use only.

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