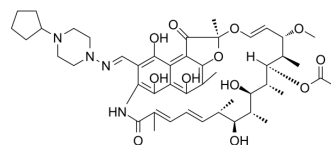


Rifapentine

Cat. No.:	HY-B0269		
CAS No.:	61379-65-5		
Molecular Formula:	C ₄₇ H ₆₄ N ₄ O ₁₂		
Molecular Weight:	877.03		
Target:	Bacterial; Antibiotic		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (57.01 mM)
 H₂O : < 0.1 mg/mL (insoluble)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		1.1402 mL	5.7011 mL	11.4021 mL
	5 mM		0.2280 mL	1.1402 mL	2.2804 mL
	10 mM		0.1140 mL	0.5701 mL	1.1402 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: ≥ 2.5 mg/mL (2.85 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rifapentine (DL 473) is an antibiotic used in tuberculosis research^[1].

In Vitro

Rifapentine shows antibacterial activity against clinical staphylococci, with MICs ranging from 0.002 to >10 µg/mL (MIC90 values of 1.28 µg/mL for MSSA and MSSE, and ≥10 µg/mL for MRSA and MRSE)^[3].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Rifapentine (20 mg/kg, i.p., daily for five days followed by twice weekly for three weeks) reduces bacteria burden in the organs of a mouse model of disseminated Mycobacterium avium infection^[2].
 Rifapentine (a single dose of 30 mg/kg, i.v.) shows a plasma C_{max}, T_{1/2} and AUC₀₋₁₅ were 33 µg/mL (0.5 h), 4 h and 170 µg h/mL in rabbits. In lung tissue, the C_{max}, T_{1/2} and AUC₀₋₁₅ are 13 µg/mL (2 h), 6.7 h and 82 µg h/mL^[4].

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

CUSTOMER VALIDATION

- Mol Syst Biol. 2022 Sep;18(9):e11081.

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- [1]. Klemens SP, et al. Activity of rifapentine against Mycobacterium avium infection in beige mice. J Antimicrob Chemother. 1992 May;29(5):555-61.
 - [2]. Albano M, et al. In Vitro Activity of Rifampin, Rifabutin, Rifapentine, and Rifaximin against Planktonic and Biofilm States of Staphylococci Isolated from Periprosthetic Joint Infection. Antimicrob Agents Chemother. 2019 Oct 22;63(11):e00959-19.
 - [3]. Rifat D, et al. Pharmacokinetics of rifapentine and rifampin in a rabbit model of tuberculosis and correlation with clinical trial data. Sci Transl Med. 2018 Apr 4;10(435):eaai7786.
 - [4]. Sharma, S.K., et al., Rifamycins (rifampicin, rifabutin and rifapentine) compared to isoniazid for preventing tuberculosis in HIV-negative people at risk of active TB. Cochrane Database Syst Rev, 2013. 7: p. CD007545.
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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

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