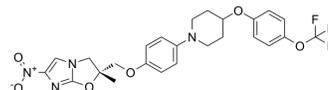


Delamanid #28

Cat. No.:	HY-10846
CAS No.:	681492-22-8
Molecular Formula:	C₂₅H₂₅F₃N₄O₆
Molecular Weight:	534.48
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 : 20.83 mg/mL (38.97 mM; ultrasonic and warming and heat to 60°C)
 Ethanol : 2 mg/mL (3.74 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.8710 mL	9.3549 mL	18.7098 mL
	5 mM	0.3742 mL	1.8710 mL	3.7420 mL
	10 mM	0.1871 mL	0.9355 mL	1.8710 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 (4.68 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.08 mg/mL (3.89 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Delamanid, a newer mycobacterial cell wall synthesis inhibitor, inhibits the synthesis of mucolic acids^[1].

In Vitro

Delamanid inhibits the synthesis of mucolic acids, crucial component of the cell wall of the Mycobacterium tuberculosis complex^[1].
 Delamanid shows more potent antibacterial activity against drug-susceptible and drug-resistant strains of M. tuberculosis^[2].

Delamanid does not affect rifampin, pyrazinamide, and isoniazid exposure; the ethambutol AUC_T and C_{max} values are about 25% higher with delamanid coadministration^[3].

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

In Vivo

Delamanid (orally administration; 30 mg/kg; 5 days) results in sterile cures in a mouse model of VL^[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int J Pharm. 2024 Apr 25;655:124031.
- J Drug Deliv Sci Technol. 2024 Oct.
- Dis Model Mech. 2021 Oct 13;dmm.049145.
- Tuberculosis. 2018 Mar;109:35-40.

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- [1]. Sotgiu G et al. Delamanid (OPC-67683) for treatment of multi-drug-resistant tuberculosis. *Expert Rev Anti Infect Ther*. 2015 Mar;13(3):305-15.
- [2]. Xavier AS et al. Delamanid: A new armor in combating drug-resistant tuberculosis. *J Pharmacol Pharmacother*. 2014 Jul;5(3):222-4
- [3]. Mallikaarjun S et al. Delamanid Coadministered with Antiretroviral Drugs or Antituberculosis Drugs Shows No Clinically Relevant Drug-Drug Interactions in Healthy Subjects. *Antimicrob Agents Chemother*. 2016 Sep 23;60(10):5976-85.
- [4]. Patterson S et al. The anti-tubercular drug delamanid as a potential oral treatment for visceral leishmaniasis. *Elife*. 2016 May 24;5.

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

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