Delamanid

Cat. No.: HY-10846

CAS No.: 681492-22-8

Molecular Formula: $C_{25}H_{25}F_3N_4O_6$

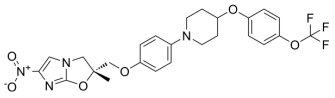
Molecular Weight: 534.48

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 / Mass / Concentration	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

1. 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
2. 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 synthesisi of mucolic acids[1].

In Vitro

Delamanid inhibits the synthesisi of mucolic acids, cruciala 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 do not affect rifampin, pyrazinamide, and isoniazid exposure; the ethambutol AUCτ and Cmax 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

- Dis Model Mech. 2021 Oct 13;dmm.049145.
- Tuberculosis (Edinb). 2018 Mar;109:35-40.

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REFERENCES

[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.

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