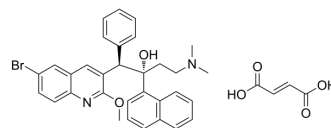


Bedaquiline fumarate

Cat. No.:	HY-14881A
CAS No.:	845533-86-0
Molecular Formula:	C ₃₆ H ₃₅ BrN ₂ O ₆
Molecular Weight:	672
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (148.81 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.4881 mL	7.4405 mL	14.8810 mL
	5 mM	0.2976 mL	1.4881 mL	2.9762 mL
	10 mM	0.1488 mL	0.7440 mL	1.4881 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: ≥ 2.75 mg/mL (4.09 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 2.75 mg/mL (4.09 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.75 mg/mL (4.09 mM); Clear solution
- Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline
Solubility: ≥ 2.75 mg/mL (4.09 mM); Clear solution
- Add each solvent one by one: 5% DMSO >> 95% (20% SBE-β-CD in saline)
Solubility: ≥ 2.75 mg/mL (4.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bedaquiline fumarate, a diarylquinoline antibiotic that targets ATP synthase, is effective for the treatment of Mycobacterium tuberculosis infections.

In Vitro

Bedaquiline inhibits the growth of TDR M. tuberculosis strains, with MIC values ranging from 0.125 to 0.5 mg/L^[1]. Among

slowly growing mycobacteria (SGM), bedaquiline exhibits the highest activity against *Mycobacterium avium* with MIC₅₀ and MIC₉₀ values of 0.03 and 16 mg/L, respectively. Among rapidly growing mycobacteria (RGM), *Mycobacterium abscessus* subsp. *abscessus* (*M. abscessus*) and *Mycobacterium abscessus* subsp. *massiliense* (*M. massiliense*) seem more susceptible to bedaquiline than *Mycobacterium fortuitum*, with MIC₅₀ and MIC₉₀ values of 0.13 and >16 mg/L, respectively, for both species. Bedaquiline also shows moderate in vitro activity against NTM species^[2]. Bedaquiline has an excellent in vitro activity against *Mycobacterium tuberculosis*, including multidrug resistant *M tuberculosis*^[3].

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

CUSTOMER VALIDATION

- Cell. 2023 May 11;186(10):2176-2192.e22.
- Nat Commun. 2021 Jun 21;12(1):3816.
- Eur J Med Chem. 6 August 2022, 114639.
- Mbio. 2021 Jun 1;e0108821.
- Int J Pharm. 2024 Feb 21:653:123920.

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REFERENCES

- [1]. Jang JC, et al. Bedaquiline susceptibility test for totally drug-resistant tuberculosis *Mycobacterium tuberculosis*. J Microbiol. 2017 Apr 20.
- [2]. Pang Y, et al. In Vitro Activity of Bedaquiline against Nontuberculous Mycobacteria in China. Antimicrob Agents Chemother. 2017 Apr 24;61(5).
- [3]. Chahine EB, et al. Bedaquiline: a novel diarylquinoline for multidrug-resistant tuberculosis. Ann Pharmacother. 2014 Jan;48(1):107-15.

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

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