Dirithromycin

Cat. No.: HY-B0643

CAS No.: 62013-04-1

Molecular Formula: $C_{42}H_{78}N_2O_{14}$

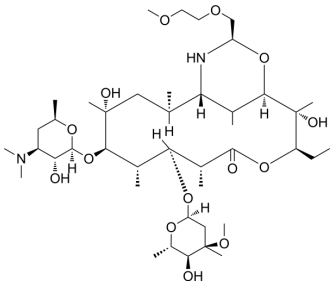
Molecular Weight: 835.07

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

Ethanol : ≥ 50 mg/mL (59.88 mM)

DMSO : 33.33 mg/mL (39.91 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.1975 mL	5.9875 mL	11.9750 mL
5 mM	0.2395 mL	1.1975 mL	2.3950 mL
10 mM	0.1198 mL	0.5988 mL	1.1975 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (2.99 mM); Clear solution
2. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.99 mM); Clear solution
3. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dirithromycin (LY237216), a derivative of Erythromycin, is a potent and orally active semi-synthetic macrolide antibiotic. Dirithromycin is active against gram-positive bacteria, Legionella spp., Helicobacter pylori, and Chlamydia trachomatis[1][2].

IC_{50} & Target

Macrolide

In Vitro	Dirithromycin possesses an in vitro spectrum of antimicrobial activity which is similar to that of Erythromycin[2]. Dirithromycin exhibits excellent in vitro activity against several strains of Legionella, with MICs of ~1.0 and <0.25 μg/mL at pH=7.1 and 7.4, respectively[2]. Dirithromycin demonstrates potent activity against several strains of Helicobacter pytori, with MICs of <0.5 μg/mL[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Dirithromycin (s.c. for 2 times) is effective against experimental infections caused by S. aureus, S. pyogenes, and S. pneumoniae in mice, with ED_{50}s of 1.0, 0.6, and <0.6 mg/kg[2]. Dirithromycin (p.o. for 2 times) is effective against experimental infections caused by S. aureus, S. pyogenes, and S. pneumoniae in mice, with ED_{50}s of 27, 34, and 23 mg/kg[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Prolif. 2021 Jan;54(1):e12953.

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REFERENCES

[1]. Wasilewski MM, et, al. Five-day dirithromycin therapy is as effective as seven-day erythromycin therapy for acute exacerbations of chronic bronchitis. J Antimicrob Chemother. 1999 Apr;43(4):541-8.

[2]. Counter FT, et, al. Synthesis and antimicrobial evaluation of dirithromycin (AS-E 136; LY237216), a new macrolide antibiotic derived from erythromycin. Antimicrob Agents Chemother. 1991 Jun;35(6):1116-26.

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