Dalbavancin hydrochloride

Cat. No.: HY-17586

CAS No.: 2227366-51-8

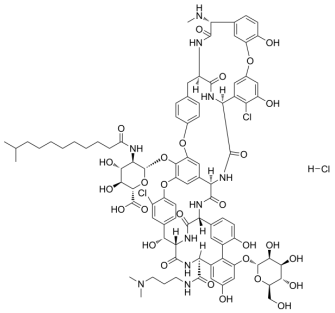
Molecular Formula: $C_{88}H_{101}Cl_3N_{10}O_{28}$

Molecular Weight: 1853.15

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage: -20°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 : 250 mg/mL (134.91 mM; Need ultrasonic)
H_2O : 50 mg/mL (26.98 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.5396 mL	2.6981 mL	5.3962 mL
	5 mM	0.1079 mL	0.5396 mL	1.0792 mL
	10 mM	0.0540 mL	0.2698 mL	0.5396 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: ≥ 2.08 mg/mL (1.12 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (1.12 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (1.12 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dalbavancin hydrochloride (MDL-63397 hydrochloride) is a semisynthetic lipoglycopeptide antibiotic with potent bactericidal activity against Gram-positive bacteria. Dalbavancin hydrochloride inhibits ***Staphylococcus aureus*** and ***Bacillus anthracis*** with MIC_{90}s of 0.06 μg/mL and 0.25 μg/mL, respectively[1][2].

IC_{50} & Target

Glycopeptide

In Vitro

Dalbavancin is a parenterally administered semisynthetic lipoglycopeptide developed to combat infections caused by resistant gram-positive pathogens. Dalbavancin exhibits potent in vitro bactericidal activity against gram-positive

pathogens including S. aureus (MRSA), VISA, and non-VanA strains of VRE. Dalbavancin is developed for the treatment of complicated skin and skin structure infections (cSSSIs), predominantly those caused by MRSA and β-hemolytic streptococci, organisms against which it has shown greater potency than existing glycopeptide therapeutic agents[1][2].

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

In Vivo

Dalbavancin (15-240 mg/kg; intraperitoneal injection; every 36 h or 72 h; for 14 days; female BALB/c mice) treatment has a survival rate of 80% to 100% of mice with all dose regimens[1].

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

Animal Model:	Female BALB/c mice (6-8 weeks) challenged with Ames strain of B. anthracis[1]
Dosage:	15 mg/kg, 30 mg/kg, 60 mg/kg, 120 mg/kg, 240 mg/kg
Administration:	Intraperitoneal injection; every 36 h or 72 h; for 14 days
Result:	The efficacy was 80 to 100%, as determined by the rate of survival at 42 days, when treatment was initiated 24 h postchallenge with regimens of 15 to 120 mg/kg every 36 h or 30 to 240 mg/kg every 72 h.

CUSTOMER VALIDATION

- Cell Res. 2021 Jan;31(1):17-24.
- Sci Rep. 2022 Sep 26;12(1):16001.
- Antivir Res. 2020 Jun;178:104786.
- The Journal of Antibiotics . 2019 Feb;72(2):114-117.
- Enferm Infec Micr Cl. 30 July 2022.

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REFERENCES

[1]. Heine HS, et al. Activity of dalbavancin against Bacillus anthracis in vitro and in a mouse inhalation anthrax model. Antimicrob Agents Chemother. 2010 Mar;54(3):991-6.

[2]. Bennett JW, et al. Dalbavancin in the treatment of complicated skin and soft-tissue infections: a review. Ther Clin Risk Manag. 2008 Feb;4(1):31-40.

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