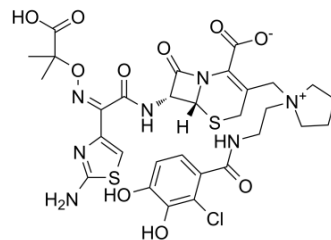


Cefiderocol

Cat. No.:	HY-17628
CAS No.:	1225208-94-5
Molecular Formula:	C ₃₀ H ₃₄ ClN ₇ O ₁₀ S ₂
Molecular Weight:	752.21
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	-20°C, stored under nitrogen

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (66.47 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		1 mg	5 mg	10 mg
		1 mM	1.3294 mL	6.6471 mL	13.2942 mL
		5 mM	0.2659 mL	1.3294 mL	2.6588 mL
	10 mM	0.1329 mL	0.6647 mL	1.3294 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: ≥ 2.75 mg/mL (3.66 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.75 mg/mL (3.66 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.75 mg/mL (3.66 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Cefiderocol (S-649266) is a siderophore cephalosporin which has a potent activity against a broad range of aerobic Gram-negative bacterial species with MIC ₅₀ s of 2 µg/mL or less.
IC₅₀ & Target	MIC ₅₀ : <2 µg/mL (Gram-negative bacteria) ^[1]
In Vitro	Cefiderocol (S-649266), a novel parenteral siderophore cephalosporin conjugated with a catechol moiety, has a characteristic antibacterial spectrum with a potent activity against a broad range of aerobic Gram-negative bacterial species, including carbapenem-resistant strains of Enterobacteriaceae and nonfermenting bacteria such as Pseudomonas aeruginosa and Acinetobacter baumannii. Cefiderocol has affinity mainly for PBP3 of Enterobacteriaceae and

nonfermenting bacteria similar to that of GR20263. A deficiency of the iron transporter PiuA in *P. aeruginosa* or both CirA and Fiu in *Escherichia coli* can cause 16-fold increases in cefiderocol MICs, suggesting that these iron transporters contribute to the permeation of cefiderocol across the outer membrane. The deficiency of OmpK35/36 in *Klebsiella pneumoniae* and the overproduction of efflux pump MexA-MexB-OprM in *P. aeruginosa* show no significant impact on the activity of cefiderocol^[1]

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

PROTOCOL

Cell Assay ^[1]

For the determination of cefiderocol MIC, iron-depleted cation-adjusted Mueller-Hinton broth (ID-CAMHB) is prepared, except for the cases that are required to determine MICs under specific conditions. The quality control MIC ranges of cefiderocol are 0.06 to 0.5 µg/mL for both *E. coli* ATCC 25922 and *P. aeruginosa* ATCC 27853. For anaerobic bacteria, brucella agar supplemented with hemin, vitamin K1, and laked sheep blood is used^[1].

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

CUSTOMER VALIDATION

- Bioorg Chem. 2020 Jan;95:103550.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Ito A, et al. In Vitro Antibacterial Properties of Cefiderocol, a Novel Siderophore Cephalosporin, against Gram-Negative Bacteria. *Antimicrob Agents Chemother.* 2017 Dec 21;62(1).

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

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