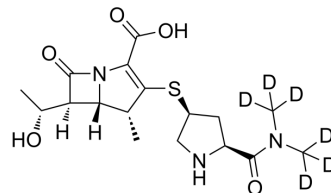


Meropenem-d₆

Cat. No.:	HY-13678S	
CAS No.:	1217976-95-8	
Molecular Formula:	C ₁₇ H ₁₉ D ₆ N ₃ O ₅ S	
Molecular Weight:	389.5	
Target:	Bacterial; Antibiotic	
Pathway:	Anti-infection	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (256.74 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.5674 mL	12.8370 mL	25.6739 mL
5 mM	0.5135 mL	2.5674 mL	5.1348 mL
10 mM	0.2567 mL	1.2837 mL	2.5674 mL

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

BIOLOGICAL ACTIVITY

Description

Meropenem-d₆ is the deuterium labeled Meropenem. Meropenem (SM 7338) is a carbapenem antibiotic with broad-spectrum antibacterial activity. Meropenem has activity against susceptible and resistant *N. gonorrhoeae* (MIC value of 0.02-0.06 mg/mL), *H. influenzae* (MIC value of 0.03-0.12 mg/mL), and *H. ducreyi* (MIC value of 0.015-0.12 mg/mL)[1][2].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].

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

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.

[2]. L Slaney, et al. In-vitro activity of meropenem against *Neisseria gonorrhoeae*, *Haemophilus influenzae* and *H. ducreyi* from Canada and Kenya. *J Antimicrob Chemother.* 1989 Sep;24 Suppl A:183-6.

[3]. George G Zhanel, et al. Comparative review of the carbapenems. *Drugs*. 2007;67(7):1027-52.

[4]. Umit Ateskan, et al. Deferoxamine and meropenem combination therapy in experimental acute pancreatitis. *Pancreas*. 2003 Oct;27(3):247-52.

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

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