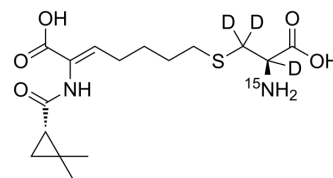


Cilastatin-¹⁵N,^d₃

Cat. No.:	HY-A0166S
CAS No.:	2738376-83-3
Molecular Formula:	C ₁₆ H ₂₃ D ₃ N ¹⁵ NO ₅ S
Molecular Weight:	362.46
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	<div> <div>Powder</div> <div>-20°C 3 years</div> <div>4°C 2 years</div> </div> <div> <div>In solvent</div> <div>-80°C 6 months</div> <div>-20°C 1 month</div> </div>



BIOLOGICAL ACTIVITY

Description	Cilastatin- ¹⁵ N, ^d ₃ is a ¹⁵ N-labeled and deuterium labeled Cilastatin. Cilastatin (MK0791) is a reversible, competitive renal dehydropeptidase I inhibitor with an IC ₅₀ of 0.1 μM. Cilastatin inhibits the bacterial metallo-β-lactamase enzyme CphA with an IC ₅₀ of 178 μM. Cilastatin is an antibacterial adjunct[1][2][3].
IC ₅₀ & Target	β-lactam
In Vitro	<p>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^[5].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-223.
- [2]. Blanca Humanes, et al. Protective Effects of Cilastatin Against Vancomycin-Induced Nephrotoxicity. *Biomed Res Int*. 2015;2015:704382.
- [3]. P J Petersen, et al. In Vitro and in Vivo Activities of LJC10,627, a New Carbapenem With Stability to Dehydropeptidase I. *Antimicrob Agents Chemother*. 1991 Jan;35(1):203-7.
- [4]. The renal membrane dipeptidase (dehydropeptidase I) inhibitor, cilastatin, inhibits the bacterial metallo-β-lactamase enzyme CphA. *Antimicrob Agents Chemother*. 1995 Jul;39(7):1629-31.

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

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