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Zuschläge

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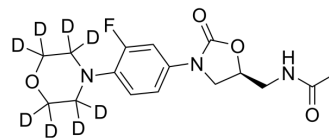
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PNU-100766-d8

Cat. No.:	HY-10394S1
CAS No.:	1032182-14-1
Molecular Formula:	C ₁₆ H ₁₂ D ₈ FN ₃ O ₄
Molecular Weight:	345.4
Target:	Antibiotic; Bacterial; Isotope-Labeled Compounds
Pathway:	Anti-infection; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	PNU-100766-d ₈ is deuterated labeled Linezolid (HY-10394). Linezolid (PNU-100766) is the first member of the class of oxazolidinone synthetic antibiotic. Linezolid acts by inhibiting the initiation of bacterial protein synthesis. Linezolid is used for the treatment of serious infections caused by Gram-positive bacteria that are resistant to several other antibiotics ^{[1][2][3]} .
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] . Linezolid (PNU-100766) prevents the synthesis of bacterial protein via binding to rRNA on both the 30S and 50S ribosomal subunits ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Clemett D, Markham A. Linezolid. *Drugs*. 2000 Apr;59(4):815-27; discussion 828.
- [2]. Chiappini E, Conti C, Galli L et al. Clinical efficacy and tolerability of linezolid in pediatric patients: a systematic review. *Clin Ther*. 2010 Jan;32(1):66-88.
- [3]. Perry CM, Jarvis B. Linezolid: a review of its use in the management of serious gram-positive infections. *Drugs*. 2001;61(4):525-51.
- [4]. He MZ, Jiang YW, Cai C. Mechanisms and epidemiology of linezolid resistance in staphylococci. *Zhonghua Jie He He Hu Xi Za Zhi*. 2012 May;35(5):360-2.
- [5]. Karau MJ, Tilahun AY, Schmidt SM, Clark CR, Patel R, Rajagopalan G. Linezolid is Superior to Vancomycin in Experimental Pneumonia Caused by Superantigen-Producing *Staphylococcus aureus* in HLA class II Transgenic Mice. *Antimicrob Agents Chemother*. 2012 Jul 30.
- [6]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.

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

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