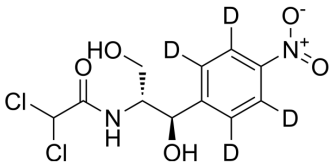
Chloramphenicol-d_4

Cat. No.:	HY-B0239S3
Molecular Formula:	$C_{11}H_8D_4Cl_2N_2O_5$
Molecular Weight:	327.15
Target:	Bacterial; Antibiotic; Isotope-Labeled Compounds
Pathway:	Anti-infection; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Chloramphenicol-d_4 is deuterium labeled Chloramphenicol. Chloramphenicol, a broad-spectrum antibiotic, acts as a potent inhibitor of bacterial protein biosynthesis[1][2]. Chloramphenicol acts primarily on the 50S subunit of bacterial 70S rihosomes and inhibits peptide bond formation by suppressing peptidyl transferase activity[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]. 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]. Bartlett JG. Chloramphenicol. Med Clin North Am. 1982;66(1):91-102.

[3]. Jardetzky, O., Studies on the mechanism of action of chloramphenicol. I. The conformation of chlioramphenicol in solution. J Biol Chem, 1963. 238: p. 2498-508.

[4]. Polikanov YS, et al. The Mechanisms of Action of Ribosome-Targeting Peptide Antibiotics. Front Mol Biosci. 2018;5:48. Published 2018 May 14.

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