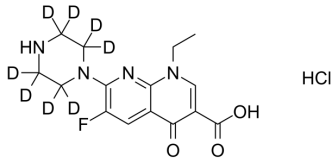
Enoxacin-d8 hydrochloride

Cat. No.:	HY-B0268S1
Molecular Formula:	$C_{15}H_{10}D_8ClFN_4O_3$
Molecular Weight:	364.83
Target:	Bacterial; DNA/RNA Synthesis; MicroRNA; Antibiotic
Pathway:	Anti-infection; Cell Cycle/DNA Damage; Epigenetics
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Enoxacin-d8 (hydrochloride) is deuterium labeled Enoxacin. Enoxacin (AT 2266), a fluoroquinolone, interferes with DNA replication and inhibits bacterial DNA gyrase (IC50=126 μg/ml) and topoisomerase IV (IC50=26.5 μg/ml). Enoxacin is a miRNA processing activator and enhances siRNA-mediated mRNA degradation and promotes the biogenesis of endogenous miRNAs. Enoxacin has potent activities against gram-positive and -negative bacteria. Enoxacin is a cancer-specific growth inhibitor that acts by enhancing TAR RNA-binding protein 2 (TRBP)-mediated microRNA processing[1][2][3][4].
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]. Chin, N.-X. and H.C. Neu, In vitro activity of enoxacin, a quinolone carboxylic acid, compared with those of norfloxacin, new beta-lactams, aminoglycosides, and trimethoprim. Antimicrobial agents and chemotherapy, 1983. 24(5): p. 754-763.

[3]. Ge Shan, et al. A small molecule enhances RNA interference and promotes microRNA processing. Nat Biotechnol. 2008 Aug;26(8):933-40.

[4]. M Takei, et al. Target preference of 15 quinolones against Staphylococcus aureus, based on antibacterial activities and target inhibition. Antimicrob Agents Chemother. 2001 Dec;45(12):3544-7.

[5]. Rengen Fan, et al. Small molecules with big roles in microRNA chemical biology and microRNA-targeted therapeutics. RNA Biol. 2019 Jun;16(6):707-718.

[6]. Sonia Melo, et al.Small molecule enoxacin is a cancer-specific growth inhibitor that acts by enhancing TAR RNA-binding protein 2-mediated microRNA processing. Proc Natl Acad Sci U S A. 2011 Mar 15;108(11):4394-9.

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

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