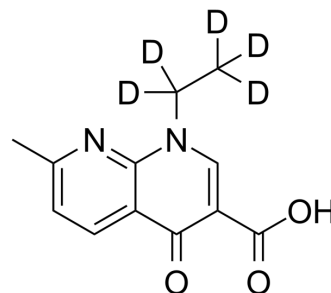


## Nalidixic Acid-d5

Cat. No.:	HY-B0398S
CAS No.:	1189467-36-4
Molecular Formula:	C <sub>12</sub> H <sub>7</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub>
Molecular Weight:	237.27
Target:	Bacterial; Antibiotic; Topoisomerase
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Nalidixic Acid-d5 is the deuterium labeled Nalidixic acid. Nalidixic acid, a quinolone antibiotic, is effective against both gram-positive and gram-negative bacteria. Nalidixic acid acts in a bacteriostatic manner in lower concentrations and is bactericidal in higher concentrations. Nalidixic acid inhibits a subunit of DNA gyrase and topoisomerase IV and reversibly blocks DNA replication in susceptible bacteria <sup>[1]</sup> .
<b>In Vitro</b>	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 <sup>[1]</sup> . 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]. antibiotic, DNA gyrase, susceptible bacteria, Escherichia coli, Klebsiella pneumoniae, Aerobacter aerogenes, Proteus spp, Salmonella spp.
- [3]. Anna Fàbrega, et al. Mechanism of Action of and Resistance to Quinolones. *Microb Biotechnol*

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

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