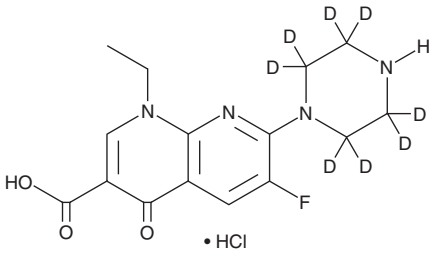
PRODUCT INFORMATION

Enoxacin-d_8 (hydrochloride)

Item No. 33544

CAS Registry No.: 2930288-95-0
Formal Name: 1-ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl-2,2,3,3,5,5,6,6-d_8)-1,8-naphthyridine-3-carboxylic acid, monohydrochloride
MF: $C_{15}H_9D_8FN_4O_3$ • HCl
FW: 364.8
Chemical Purity: ≥98% (Enoxacin)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_8); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Enoxacin-d_8 is intended for use as an internal standard for the quantification of enoxacin (Item No. 16956) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Enoxacin-d_8 is supplied as a solid. A stock solution may be made by dissolving the enoxacin-d_8 in the solvent of choice, which should be purged with an inert gas. Enoxacin-d_8 is soluble in DMSO (warmed).

Description

Enoxacin is a fluoroquinolone antibiotic.[1-4] It is active against clinical isolates of a variety of Gram-positive and Gram-negative bacteria, including *S. aureus*, *E. coli*, *K. pneumoniae*, *P. aeruginosa*, and *S. marcescens* (MIC_{50}s = 1, 0.12, 0.25, 0.5, and 1 mg/L, respectively).[1] Enoxacin inhibits *S. aureus* DNA gyrase supercoiling activity and topoisomerase IV DNA decatenation (IC_{50}s = 126 and 26.5 µg/ml, respectively).[2] It increases survival in mouse models of systemic *S. aureus*, *E. coli*, *K. pneumoniae*, *P. aeruginosa*, and *S. marcescens* infection with ED_{50} values of 15.1, 2.2, 4.1, 120.3, and 7.6 mg/kg, respectively.[3] Enoxacin (4 and 8 mg/kg per day) also reduces tumor growth in a 143B human osteosarcoma mouse xenograft model.[4] Formulations containing enoxacin have previously been used in the treatment of urinary tract infections and gonorrhea.

References

1. Clarke, A.M., Zemcov, S.J., and Campbell, M.E. *In-vitro* activity of pefloxacin compared to enoxacin, norfloxacin, gentamicin and new β-lactams. *J. Antimicrob. Chemother.* **15(1)**, 39-44 (1985).
2. Takei, M., Fukuda, H., Kishii, R., *et al.* Target preference of 15 quinolones against *Staphylococcus aureus*, based on antibacterial activities and target inhibition. *Antimicrob. Agents Chemother.* **45(12)**, 3544-3547 (2001).
3. Ozaki, M., Matsuda, M., Tomii, Y., *et al.* In vivo evaluation of NM441, a new thiazeto-quinoline derivative. *Antimicrob. Agents Chemother.* **35(12)**, 2496-2499 (1991).
4. Luo, X., Liu, X., Tao, Q., *et al.* Enoxacin inhibits proliferation and invasion of human osteosarcoma cells and reduces bone tumour volume in a murine xenograft model. *Oncol. Lett.* **20(2)**, 1400-1408 (2020).

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