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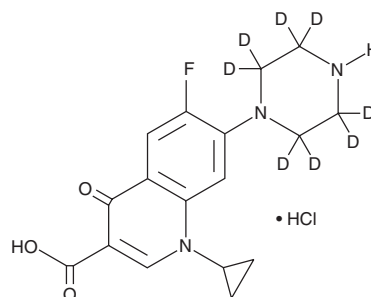
PRODUCT INFORMATION



Ciprofloxacin-d₈ (hydrochloride)

Item No. 25466

CAS Registry No.: 1216659-54-9
Formal Name: 1-cyclopropyl-6-fluoro-4-oxo-7-(piperazin-1-yl-2,2,3,3,5,5,6,6-d₈)-1,4-dihydroquinoline-3-carboxylic acid, monohydrochloride
MF: C₁₇H₁₀D₈FN₃O₃ • HCl
FW: 375.9
Chemical Purity: ≥95% (Ciprofloxacin)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Ciprofloxacin-d₈ (hydrochloride) is intended for use as an internal standard for the quantification of ciprofloxacin (Item No. 14286) 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).

Ciprofloxacin-d₈ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the ciprofloxacin-d₈ (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Ciprofloxacin-d₈ (hydrochloride) is slightly soluble in methanol.

Ciprofloxacin-d₈ (hydrochloride) is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Ciprofloxacin is a fluoroquinolone antibiotic.¹ It is active against a variety of Gram-positive and Gram-negative bacteria *in vitro*, including *S. aureus*, *L. monocytogenes*, *P. aeruginosa*, *Legionella*, *N. gonorrhoeae*, and *H. pylori* (MIC₅₀s = 0.004-1 µg/ml).² It is also active against clinical isolates of *Bacteroides*, *Fusobacterium*, *Eubacterium*, *Actinomyces*, *Peptococcus*, *Peptostreptococcus*, and *Streptococcus in vitro* (MIC₅₀s = 0.5-2 µg/ml).³ Ciprofloxacin inhibits *S. aureus* DNA gyrase and topoisomerase IV (IC₅₀s = 13.5 and 5.76 µg/ml, respectively).⁴ It reduces mortality in mouse models of intraperitoneal *E. coli*, *P. vulgaris*, *K. pneumoniae*, *P. aeruginosa*, and *S. aureus* infection (ED₉₀₋₁₀₀s = 1-5, 2.5-5, 5-10, 20-40, and 80 mg/kg, respectively) and prevents mortality in a mouse model of subcutaneous *S. typhimurium* infection at 10 mg/kg.^{5,6} Formulations containing ciprofloxacin have been used in the treatment of bacterial infections.

References

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2. Nilius, A.M., Shen, L.L., Hensey-Rudloff, D., et al. *Antimicrob. Agents Chemother.* **47**(10), 3260-3269 (2003).
3. Bansal, M.B. and Thadepalli, H. *Antimicrob. Agents Chemother.* **31**(4), 619-621 (1987).
4. Takei, M., Fukuda, H., Kishii, R., et al. *Antimicrob. Agents Chemother.* **45**(12), 3544-3547 (2001).
5. Zeiler, H.J. and Grohe, K. *Eur. J. Clin. Microbiol.* **3**(4), 339-343 (1984).
6. Easmon, C.S.F., Crane, J.P., and Blowers, A. *J. Antimicrob. Chemother.* **18** (Suppl D), 43-48 (1986).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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