

PRODUCT INFORMATION



Ciprofloxacin (hydrochloride hydrate)

Item No. 14286

CAS Registry No.: 86393-32-0
Formal Name: 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinolinecarboxylic acid, monohydrochloride, monohydrate

MF: C₁₇H₁₈FN₃O₃ • HCl [H₂O]

FW: 385.8

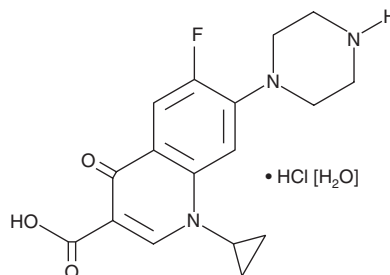
Purity: ≥95%

UV/Vis.: λ_{max}: 206, 280, 318 nm

Supplied as: A crystalline 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

Ciprofloxacin (hydrochloride hydrate) is sparingly 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

1. Drlica, K. and Zhao, X. *Microbiol. Mol. Biol. Rev.* **61**(3), 377-392 (1997).
2. Nilius, A.M., Shen, L.L., Hensy-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. Easmon, C.S.F., Crane, J.P., and Blowers, A. *J. Antimicrob. Chemother.* **18** (Suppl D), 43-48 (1986).
6. Zeiler, H.J. and Grohe, K. *Eur. J. Clin. Microbiol.* **3**(4), 339-343 (1984).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM