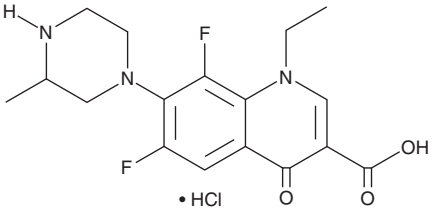
PRODUCT INFORMATION

Lomefloxacin (hydrochloride)

Item No. 28271

CAS Registry No.: 98079-52-8
Formal Name: 1-ethyl-6,8-difluoro-1,4-dihydro-7-(3-methyl-1-piperazinyl)-4-oxo-3-quinolinecarboxylic acid, monohydrochloride
Synonym: SC-47111
MF: $C_{17}H_{19}F_2N_3O_3$ • HCl
FW: 387.8
Purity: ≥98%
UV/Vis.: λ_{max}: 287 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

Lomefloxacin (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the lomefloxacin (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Lomefloxacin (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of lomefloxacin (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of lomefloxacin (hydrochloride) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Lomefloxacin is an orally bioavailable, broad-spectrum fluoroquinolone antibiotic.[1] *In vitro*, it inhibits growth of *N. gonorrhoeae*, *E. coli*, *K. pneumoniae*, *P. vulgaris*, *S. epidermidis*, and *M. morganii* (MIC_{90}s = 0.1, 0.39, 0.39, 0.39, 0.39, and 0.78 µg/ml, respectively). It also inhibits growth of *S. aureus* and methicillin-resistant *S. aureus* (MRSA; MIC_{90} = 3.13 µg/ml for both) and of *H. influenzae* and ampicillin-resistant *H. influenzae* (MIC_{90} = 0.1 µg/ml for both). *In vivo*, lomefloxacin inhibits the growth of *P. mirabilis*, *E. coli*, *K. pneumoniae*, and *S. aureus* (ED_{50}s = 1.39, 1.45, 1.78, and 6.66 mg/kg, respectively) in mouse models of systemic infection. It inhibits bacterial DNA gyrase, thereby inhibiting DNA synthesis and bacterial growth.[2] Formulations containing lomefloxacin have been used in the treatment of bronchitis and urinary tract bacterial infections.

References

1. Hirose, T., Okezaki, E., Kato, H., *et al*. In vitro and in vivo activity of NY-198, a new difluorinated quinolone. *Antimicrob. Agents Chemother.* **31(6),** 854-859 (1987).
2. Piddock, L.J., Hall, M.C., and Wise, R. Mechanism of action of lomefloxacin. *Antimicrob. Agents Chemother.* **34(6),** 1088-1093 (1990).

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