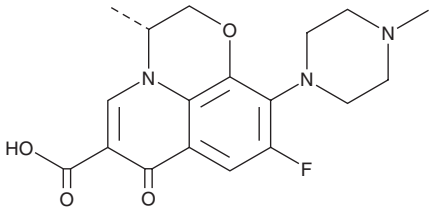
PRODUCT INFORMATION

(R)-Ofloxacin

Item No. 29601

CAS Registry No.:	100986-86-5
Formal Name:	(3R)-9-fluoro-2,3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-7H-pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid
Synonym:	Dextrofloxacin
MF:	$C_{18}H_{20}FN_3O_4$
FW:	361.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 227, 299 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

(R)-Ofloxacin is supplied as a crystalline solid. A stock solution may be made by dissolving the (R)-ofloxacin in the solvent of choice, which should be purged with an inert gas. (R)-Ofloxacin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (R)-ofloxacin in ethanol is approximately 1 mg/ml and approximately 20 mg/ml in DMSO and DMF.

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 (R)-ofloxacin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (R)-ofloxacin in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(R)-Ofloxacin is a fluoroquinolone antibiotic and the (R) isomer of the antibiotics ofloxacin (Item No. 22891) and levofloxacin (Item No. 20382).[1] It is active against certain Gram-positive and Gram-negative bacteria, including *E. coli*, *P. aeruginosa* strains 32104 and 32122, *S. aureus* strains 209P and Smith, and *S. epidermis* strain 56556 (MICs = 0.78, 12.5, 6.25, 25, 12.5, and 25 µg/ml, respectively) but not *S. epidermis* strain 56500, *S. pyogenes*, or *S. faecalis* (MICs = >100 µg/ml for all).[2] (R)-Ofloxacin inhibits *E. coli* DNA gyrase with an IC_{50} value of 75 µg/ml, which is approximately 30- and 50-fold lower than inhibition by ofloxacin and levofloxacin, respectively.[1]

References

1. Morrissey, I., Hoshino, K., Sato, K., *et al.* Mechanism of differential activities of ofloxacin enantiomers. *Antimicrob. Agents Chemother.* **40(8)**, 1775-1784 (1996).
2. Hayakawa, I., Atarashi, S., Yokohama, S., *et al.* Synthesis and antibacterial activities of optically active ofloxacin. *Antimicrob. Agents Chemother.* **29(1)**, 163-164 (1986).

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