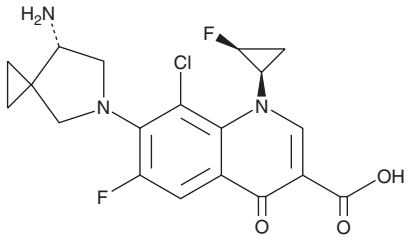
PRODUCT INFORMATION

Sitafloxacin

Item No. 32949

CAS Registry No.:	127254-12-0
Formal Name:	7-[(7S)-7-amino-5-azaspiro[2.4]hept-5-yl]-8-chloro-6-fluoro-1-[(1R,2S)-2-fluorocyclopropyl]-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid
Synonyms:	DU6859a, DU-6859
MF:	$C_{19}H_{18}ClF_2N_3O_3$
FW:	409.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 296 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

Sitafloxacin is supplied as a crystalline solid. A stock solution may be made by dissolving the sitafloxacin in the solvent of choice, which should be purged with an inert gas. Sitafloxacin is slightly soluble in methanol, DMSO, and dimethyl formamide.

Description

Sitafloxacin is a fluoroquinolone antibiotic.[1] It is active against a panel of clinical isolates from a variety of bacterial species (MIC_{50}s = ≤0.006-1.56 µg/ml), including methicillin-resistant strains of *S. aureus* and *S. epidermidis* and ofloxacin-resistant *P. aeruginosa* (MIC_{50}s = 0.025-6.25 µg/ml).[1] Sitafloxacin inhibits *S. pneumoniae* DNA gyrase supercoiling activity and topoisomerase IV DNA decatenation (IC_{50}s = 4.38 and 3.12 mg/L, respectively) and *M. tuberculosis* DNA gyrase supercoiling activity (IC_{50} = 1.67 mg/L).[2,3] It decreases the number of colony forming units (CFUs) in the lung and spleen in a mouse model of *M. avium* infection.[4]

References

1. Nakane, T., Iyobe, S., Sato, K., *et al.* In vitro antibacterial activity of DU-6859a, a new fluoroquinolone. *Antimicrob. Agents Chemother.* **39(12)**, 2822-2826 (1995).
2. Okumura, R., Hirata, T., Onodera, Y., *et al.* Dual-targeting properties of the 3-aminopyrrolidyl quinolones, DC-159a and sitafloxacin, against DNA gyrase and topoisomerase IV: Contribution to reducing in vitro emergence of quinolone-resistant *Streptococcus pneumoniae*. *J. Antimicrob. Chemother.* **62(1)**, 98-104 (2008).
3. Onodera, Y., Tanaka, M., and Sato, K. Inhibitory activity of quinolones against DNA gyrase of *Mycobacterium tuberculosis*. *J. Antimicrob. Chemother*. **47(4)**, 447-450 (2001).
4. Sano, C., Tatano, Y., Shimizu, T., *et al.* Comparative in vitro and in vivo antimicrobial activities of sitafloxacin, gatifloxacin and moxifloxacin against *Mycobacterium avium*. *Int. J. Antimicrob. Agents* **37(4)**, 296-301 (2011).

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