Sitafloxacin hydrochloride

Cat. No.: HY-B0395A

CAS No.: 346607-37-2

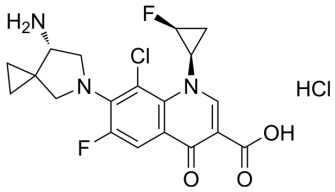
Molecular Formula: $C_{19}H_{19}Cl_2F_2N_3O_3$

Molecular Weight: 446.28

Target: Antibiotic; Bacterial

Pathway: Anti-infection

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Sitafloxacin (DU6859a) hydrochloride is a potent, orally active fluoroquinolone antibiotic. Sitafloxacin hydrochloride shows antichlamydial activity and antibacterial activities against a broad range of gram-positive and gram-negative bacteria, including anaerobic bacteria, as well as against atypical pathogens. Sitafloxacin hydrochloride can be used for the research of respiratory tract infection and urinary tract infection[1][2].
IC_{50} & Target	Quinolone
In Vitro	Sitafloxacin (DU6859a) hydrochloride shows antibacterial activities with MIC of 0.03, 0.12, 0.06 mg/L for wild-type ATCC 49619, gyrA mutant SP39, parC mutant 1026523 streptococcus pneumoniae stran, respectively[1]. Sitafloxacin (DU6859a) hydrochloride shows antibacterial activities for quinolone-susceptible strains of streptococcus pneumoniae with MIC of 0.03, 0.03 mg/L for EG 00093 and EG 00218 strain, respectively[1]. Sitafloxacin (DU6859a) hydrochloride shows inhibition for DNA gyrase and topoisomerase IV (TopoIV) with >IC_{50}s of 4.38, 3.12 mg/L, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Sitafloxacin (DU6859a; 12.5-100 mg/kg; i.g.; daily for 4 weeks; BALB/c female mice) hydrochloride has antibacterial activity. M. ulcerans cells could be isolated from the inoculated footpads and there was no evidence of footpad swelling[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	BALB/c female mice[2]
Dosage:	12.5, 25, 50 and 100 mg/kg
Administration:	Oral gavage; daily, for 4 weeks
Result:	Inhibits the growth of Mycobacterium ulcerans and the M. ulcerans cells

CUSTOMER VALIDATION

- Antimicrob Resist Infect Control. 2019 Feb 15;8:40.

- Infect Drug Resist. 2019 Jan 31;12:345-358.
- PLoS One. 2019 Mar 27;14(3):e0213868.
- Curr Microbiol. 2021 Dec 14;79(1):12.

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REFERENCES

[1]. Okumura R, 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. 2008 Jul;62(1):98-104.

[2]. Dhople AM, et al. Activities of sitafloxacin (DU-6859a), either singly or in combination with rifampin, against Mycobacterium ulcerans infection in mice. J Chemother. 2003 Feb;15(1):47-52.

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