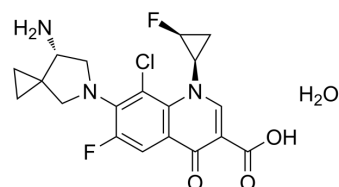


Sitafloxacin monohydrate

Cat. No.:	HY-B0395B
CAS No.:	163253-37-0
Molecular Formula:	C ₁₉ H ₂₀ ClF ₂ N ₃ O ₄
Molecular Weight:	427.83
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) monohydrate is a potent, orally active fluoroquinolone antibiotic. Sitafloxacin monohydrate 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 monohydrate can be used for the research of respiratory tract infection and urinary tract infection ^{[1][2]} .								
IC₅₀ & Target	Quinolone								
In Vitro	<p>Sitafloxacin (DU6859a) monohydrate 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 strain, respectively^[1].</p> <p>Sitafloxacin (DU6859a) monohydrate 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].</p> <p>Sitafloxacin (DU6859a) monohydrate shows inhibition for DNA gyrase and topoisomerase IV (TopoIV) with >IC₅₀s of 4.38, 3.12 mg/L, respectively^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
In Vivo	<p>Sitafloxacin (DU6859a; 12.5-100 mg/kg; i.g.; daily for 4 weeks; BALB/c female mice) monohydrate has antibacterial activity. <i>M. ulcerans</i> cells could be isolated from the inoculated footpads and there was no evidence of footpad swelling^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" data-bbox="341 1465 1513 1705"> <tr> <td>Animal Model:</td> <td>BALB/c female mice^[2]</td> </tr> <tr> <td>Dosage:</td> <td>12.5, 25, 50 and 100 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Oral gavage; daily, for 4 weeks</td> </tr> <tr> <td>Result:</td> <td>Inhibits the growth of <i>Mycobacterium ulcerans</i> and the <i>M. ulcerans</i> cells.</td> </tr> </table>	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 <i>Mycobacterium ulcerans</i> and the <i>M. ulcerans</i> cells.
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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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Caution: Product has not been fully validated for medical applications. For research use only.

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