Sitafloxacin hydrate

Cat. No.: HY-B0395C

CAS No.: 163253-35-8

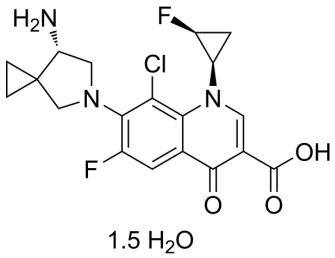
Molecular Formula: $C_{19}H_{18}ClF_2N_3O_3.3/2H_2O$

Molecular Weight: 436.84

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 8.9 mg/mL (20.37 mM; Need ultrasonic and warming)
H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2892 mL	11.4458 mL	22.8917 mL
5 mM	0.4578 mL	2.2892 mL	4.5783 mL
10 mM	0.2289 mL	1.1446 mL	2.2892 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.76 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.76 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.76 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sitafloxacin (DU6859a) hydrate is an orally active fluoroquinolone antibiotic (antibiotic) with in vitro activity against a wide range of Gram-positive and -negative bacteria, including anaerobic bacteria, as well as atypical pathogens. Sitafloxacin is used in the study of respiratory tract infections and urinary tract infections[1][2][3][4].

IC_{50} & Target

Quinolone

In Vitro

The minimum inhibitory concentration (MIC), minimum bactericidal concentration (MBC) and mutation prevention concentration (MPC) of Sitafloxacin hydrate against Mycobacterium avium are 2 mg/L, 2 mg/L and 45 mg/L, respectively[4].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Sitafloxacin hydrate (2-10 mg/kg) shows good activity against Mycobacterium avium in mice in vivo, can effectively eliminate bacteria in the spleen and lungs, and shows strong activity against mycobacteria in macrophage[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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]. Anderson, D.L., Sitafloxacin hydrate for bacterial infections. Drugs Today (Barc), 2008. 44(7): p. 489-501.

[2]. Surapee Tiengrim, et al. Comparative in vitro activity of sitafloxacin against bacteria isolated from Thai patients with urinary tract infections and lower respiratory tract infections. J Med Assoc Thai. 2012 Feb;95 Suppl 2:S6-17.

[3]. Keating, et al. Sitafloxacin: in bacterial infections. Drugs, 2011. 71(6): p. 731-44.

Caution: Product has not been fully validated for medical applications. For research use only.

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