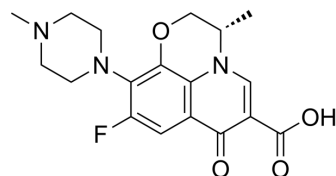


## Levofloxacin

Cat. No.:	HY-B0330
CAS No.:	100986-85-4
Molecular Formula:	C <sub>18</sub> H <sub>20</sub> FN <sub>3</sub> O <sub>4</sub>
Molecular Weight:	361.37
Target:	Bacterial; Antibiotic; Topoisomerase; DNA/RNA Synthesis; Orthopoxvirus
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 10 mg/mL (27.67 mM; Need ultrasonic)  
 H<sub>2</sub>O : ≥ 5 mg/mL (13.84 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.7672 mL	13.8362 mL	27.6725 mL
	5 mM	0.5534 mL	2.7672 mL	5.5345 mL
	10 mM	0.2767 mL	1.3836 mL	2.7672 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 10 mg/mL (27.67 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 1 mg/mL (2.77 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 1 mg/mL (2.77 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 1 mg/mL (2.77 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Levofloxacin ((-)-Ofloxacin) is an orally active antibiotic and is active against both Gram-positive and Gram-negative bacteria. Levofloxacin inhibits the DNA gyrase and topoisomerase IV. Levofloxacin can be used for chronic periodontitis, airway inflammation and BK Viremia research. Levofloxacin shows anti-orthopoxvirus activity<sup>[1][2][3][4][5]</sup>.

#### IC<sub>50</sub> & Target

Quinolone

TOPO IV

<b>In Vitro</b>	Levofloxacin shows inhibition effects to M. tuberculosis susceptible strains OFLO, LVFX, and SPFX with MIC <sub>50</sub> values of 1.0, 0.5 and 0.25 µg/mL, respectively <sup>[4]</sup> MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
<b>In Vivo</b>	Levofloxacin (10.7 mg/kg; i.p., once daily for 10 days or 3 weeks) time-dependently induces toxic effects on liver and heart in albino mice <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
	<table border="1"> <tr> <td>Animal Model:</td> <td>Matured male Albino mice<sup>[3]</sup></td> </tr> <tr> <td>Dosage:</td> <td>10.7 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection; 10.7 mg/kg, once daily for 10 days or 3 weeks.</td> </tr> <tr> <td>Result:</td> <td>Induced severe congestion of blood vessels in the portal area, central veins with inflammatory cells infiltration, necrosis with pyknosis of cardiac muscle nuclei and apoptosis, degeneration and necrosis of hepatocytes.</td> </tr> </table>	Animal Model:	Matured male Albino mice <sup>[3]</sup>	Dosage:	10.7 mg/kg	Administration:	Intraperitoneal injection; 10.7 mg/kg, once daily for 10 days or 3 weeks.	Result:	Induced severe congestion of blood vessels in the portal area, central veins with inflammatory cells infiltration, necrosis with pyknosis of cardiac muscle nuclei and apoptosis, degeneration and necrosis of hepatocytes.
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## CUSTOMER VALIDATION

- Nat Commun. 2022 Mar 2;13(1):1116.
- Emerg Microbes Infect. 2024 Dec;13(1):2321981.
- Clin Chem. 2019 Dec;65(12):1522-1531.
- ACS Infect Dis. 2024 Apr 12;10(4):1327-1338.
- Antimicrob Agents Chemother. 2021 Feb 17;65(3):e01921-20.

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## REFERENCES

- [1]. Drlica K, et al. DNA gyrase, topoisomerase IV, and the 4-quinolones. Microbiol Mol Biol Rev. 1997 Sep;61(3):377-92.
- [2]. Smee DF, et al. A review of compounds exhibiting anti-orthopoxvirus activity in animal models. Antiviral Res. 2003 Jan;57(1-2):41-52.
- [3]. Rand A, et al. Effect of levofloxacin on some body tissues in mice. Effect of levofloxacin on some body tissues in mice. Iraqi Journal of Veterinary Sciences, 2021.
- [4]. Ji B, et al. In vitro and in vivo activities of levofloxacin against Mycobacterium tuberculosis. Antimicrob Agents Chemother. 1995 Jun;39(6):1341-4.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA