Pefloxacin mesylate

Cat. No.: HY-B0147A

CAS No.: 70458-95-6

Molecular Formula: $C_{18}H_{24}FN_3O_6S$

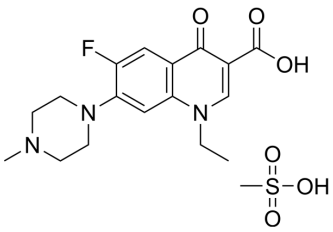
Molecular Weight: 429.46

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (232.85 mM)

DMSO : 12.5 mg/mL (29.11 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3285 mL	11.6425 mL	23.2851 mL
5 mM	0.4657 mL	2.3285 mL	4.6570 mL
10 mM	0.2329 mL	1.1643 mL	2.3285 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 150 mg/mL (349.28 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.25 mg/mL (2.91 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (2.91 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (2.91 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pefloxacin mesylate is a an antibacterial agent and prevents bacterial DNA replication by inhibiting DNA gyrase (topoisomerse)Target: DNA gyrasePefloxacin is a synthetic chemotherapeutic agent used to treat severe and life-threatening bacterial infections. Pefloxacin is commonly referred to as afluoroquinolone (or quinolone) drug and is a member of the fluoroquinolone class of antibacterials. It is an analog of norfloxacin. It is a synthetic fluoroquinolone, belonging to the 3rd generation of quinolones. Pefloxacin is extensively prescribed in France. Pefloxacin has not been approved for use in the

	United States.The bactericidal action of pefloxacin results from interference with the activity of the bacterial enzymes DNA gyrase and topoisomerase IV, which are needed for the transcription and replication of bacterial DNA. DNA gyrase appears to be the primary quinolone target for gram-negative bacteria. Topoisomerase IV appears to be the preferential target in gram-positive organisms. Interference with these two topoisomerases results in strand breakage of the bacterial chromosome, supercoiling, and resealing. As a result DNA replication and transcription is inhibited.
IC_{50} & Target	Quinolone

CUSTOMER VALIDATION

- Chemosphere. 2019 Jun;225:378-387.
- Xenobiotica. 2021 Jan 17;1-15.

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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]. Hussy P, et al. Effect of 4-quinolones and novobiocin on calf thymus DNA polymerase alpha primase complex, topoisomerases I and II, and growth of mammalian lymphoblasts. Antimicrob Agents Chemother. 1986 Jun;29(6):1073-8.

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

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