Nadifloxacin

Cat. No.: HY-B0506

CAS No.: 124858-35-1

Molecular Formula: $C_{19}H_{21}FN_2O_4$

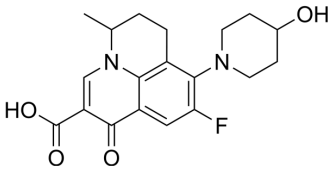
Molecular Weight: 360.38

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (69.37 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7748 mL	13.8742 mL	27.7485 mL
5 mM	0.5550 mL	2.7748 mL	5.5497 mL
10 mM	0.2775 mL	1.3874 mL	2.7748 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Nadifloxacin(OPC7251) is a topical fluoroquinolone antibiotic for the treatment of acne vulgaris. Target: AntibacterialNadifloxacin is a potent, broad-spectrum, quinolone agent approved for topical use in acne vulgaris and skin infections. Nadifloxacin inhibits the enzyme DNA gyrase that is involved in bacterial DNA synthesis and replication, thus inhibiting the bacterial multiplication. In vitro studies of nadifloxacin show potent and broad-spectrum antibacterial activity against aerobic Gram-positive, Gram-negative and anaerobic bacteria. Additionally, studies also suggest that the effectiveness of nadifloxacin in inflammatory acne lesions may be attributed to its inhibitory effect on pro-inflammatory cytokines like interleukin (IL)-1α, IL-6, and IL-8 which also play an important role in acne pathogenesis [1, 2].

IC_{50} & Target

Quinolone

CUSTOMER VALIDATION

- J Biol Chem. 2021 Dec 29;101554.

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REFERENCES

[1]. Jacobs, M.R. and P.C. Appelbaum, Nadifloxacin: a quinolone for topical treatment of skin infections and potential for systemic use of its active isomer, WCK 771. Expert Opin Pharmacother, 2006. 7(14): p. 1957-66.

[2]. Choudhury, S., et al., Efficacy and safety of topical nadifloxacin and benzoyl peroxide versus clindamycin and benzoyl peroxide in acne vulgaris: A randomized controlled trial. Indian J Pharmacol, 2011. 43(6): p. 628-31.

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