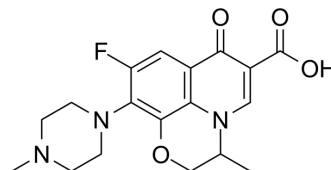


Ofloxacin

Cat. No.:	HY-B0125	
CAS No.:	82419-36-1	
Molecular Formula:	C ₁₈ H ₂₀ FN ₃ O ₄	
Molecular Weight:	361.37	
Target:	Bacterial; Antibiotic	
Pathway:	Anti-infection	
Storage:	Powder	-20°C 3 years 4°C 2 years
	In solvent	-80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 4 mg/mL (11.07 mM)
 * "≥" means soluble, but saturation unknown.

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.

BIOLOGICAL ACTIVITY

Description	Ofloxacin (Hoe-280) is a fluoroquinolone whose primary mechanism of action is inhibition of bacterial DNA gyrase.
IC₅₀ & Target	DNA gyrase ^[1] .
In Vitro	Ofloxacin (Hoe-280) is a fluoroquinolone whose primary mechanism of action is inhibition of bacterial DNA gyrase. In vitro it has a broad spectrum of activity against aerobic Gram-negative and Gram-positive bacteria, although it is poorly active against anaerobes ^[1] . Ofloxacin (Hoe-280), like other 4-quinolones, is unusual among front line drugs available to treat bacterial infections since it affects bacterial DNA synthesis, rather than cell wall or protein synthesis ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Ofloxacin (Hoe-280) (20 mg/kg), norfloxacin (40 mg/kg), pefloxacin mesylate dihydrate (40 mg/kg) and ciprofloxacin (50 mg/kg) are administered by gavage twice daily for three consecutive weeks. 6 weeks after treatment, the test animals are euthanised and Achilles tendon specimens are collected. A computer monitored tensile testing machine was utilised for biomechanical testing. The mean elastic modulus of the control group was significantly higher than that of the norfloxacin

and pefloxacin groups ($p < 0.05$ and $p < 0.01$, respectively). The mean yield force (YF) of the control group was significantly higher than those of ciprofloxacin, norfloxacin and pefloxacin groups ($p < 0.001$, $p < 0.05$ and $p < 0.01$, respectively). The mean ultimate tensile force (UTF) of the control group was significantly higher than of the ciprofloxacin, norfloxacin, and pefloxacin groups ($p < 0.001$, $p < 0.05$ and $p < 0.01$, respectively). Hyaline degeneration and fibre disarrangement were observed in the tendons of the ciprofloxacin, pefloxacin, and ofloxacin treated-groups, whereas myxomatous degeneration was observed only in the ciprofloxacin and pefloxacin groups^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Chemosphere. 2019 Jun;225:378-387.
- Pharmacol Res Perspect. 2020 Apr;8(2):e00575.

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REFERENCES

- [1]. Todd PA, et al. Ofloxacin. A reappraisal of its antimicrobial activity, pharmacology and therapeutic use. *Drugs*. 1991 Nov;42(5):825-76.
- [2]. Smith JT, et al. Ofloxacin, a bactericidal antibacterial. *Chemotherapy*. 1991;37 Suppl 1:2-13.
- [3]. Olcay E, et al. Oral toxicity of pefloxacin, norfloxacin, ofloxacin and ciprofloxacin: comparison of biomechanical and histopathological effects on Achilles tendon in rats. *J Toxicol Sci*. 2011 Jun;36(3):339-45.

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

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