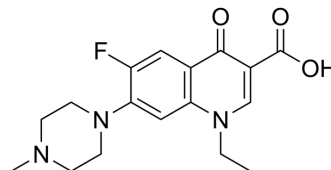


## Pefloxacin

<b>Cat. No.:</b>	HY-B0147
<b>CAS No.:</b>	70458-92-3
<b>Molecular Formula:</b>	C <sub>17</sub> H <sub>20</sub> FN <sub>3</sub> O <sub>3</sub>
<b>Molecular Weight:</b>	333.36
<b>Target:</b>	Bacterial; Antibiotic
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

#### Description

Pefloxacin is an antibacterial agent and prevents bacterial DNA replication by inhibiting DNA gyrase (topoisomerase) Target: DNA gyrase Pefloxacin is a synthetic chemotherapeutic agent used to treat severe and life-threatening bacterial infections. Pefloxacin is commonly referred to as a fluoroquinolone (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<sub>50</sub> & Target

Quinolone

### CUSTOMER VALIDATION

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

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

### 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.

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**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