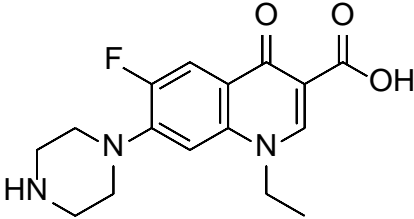


Product data sheet



MedKoo Cat#: 318379 Name: Norfloxacin CAS: 70458-96-7 (free base) Chemical Formula: C ₁₆ H ₁₈ FN ₃ O ₃ Exact Mass: 319.1332 Molecular Weight: 319.3308	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Norfloxacin is a synthetic chemotherapeutic antibacterial agent occasionally used to treat common as well as complicated urinary tract infections. It is a first generation synthetic fluoroquinolone (quinolone) and is approved for the treatment of urinary tract infections, prostatitis, and sexually transmitted diseases, although it is no longer used for the latter due to bacterial resistance.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	5.0	15.66
DMSO	3.5	10.96
PBS (pH 7.2)	0.5	1.57
Water	1.0	3.13

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.13 mL	15.66 mL	31.32 mL
5 mM	0.63 mL	3.13 mL	6.26 mL
10 mM	0.31 mL	1.57 mL	3.13 mL
50 mM	0.06 mL	0.31 mL	0.63 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Xie X, Zhang W, Chen X, Wu D, Cao Y. Norfloxacin suppresses Leptospira-induced inflammation through inhibiting p65 and ERK phosphorylation and NLRP3 inflammasome activation. *Microb Pathog.* 2022 Jan;162:105315. doi: 10.1016/j.micpath.2021.105315. Epub 2021 Nov 24. PMID: 34826552.
- Yang T, Fan TJ, Xu B. Norfloxacin induces apoptosis and necroptosis in human corneal epithelial cells. *Toxicol In Vitro.* 2020 Aug;66:104868. doi: 10.1016/j.tiv.2020.104868. Epub 2020 Apr 19. PMID: 32320760.

In vivo study

- Matsui K, Kashima A, Motegi A. Norfloxacin, a Fluoroquinolone Antibiotic, Inhibits Langerhans Cell-Mediated Th1 and Th2 Cell Development. *J Pharm Pharm Sci.* 2019 Apr 11;22(1):122-130. doi: 10.18433/jpps30335. PMID: 30974054.
- Tazi KA, Moreau R, Hervé P, Dauvergne A, Cazals-Hatem D, Bert F, Poirel O, Rabiller A, Lebec D. Norfloxacin reduces aortic NO synthases and proinflammatory cytokine up-regulation in cirrhotic rats: role of Akt signaling. *Gastroenterology.* 2005 Jul;129(1):303-14. doi: 10.1053/j.gastro.2005.04.016. PMID: 16012955.

Product data sheet



7. Bioactivity

Biological target:

Norfloxacin (MK-0366) is a broad-spectrum antibiotic that is active against both Gram-positive and Gram-negative bacteria.

In vitro activity

Treatment with norfloxacin down-regulated *Leptospira*-induced IL-1 β and TNF- α both in vivo and vitro models. Further study showed that norfloxacin inhibited *Leptospira*-induced phosphorylation of p65 and ERK. Norfloxacin also inhibited the *Leptospira*-induced NLRP3 inflammasome activation with the increased level of Na/K-ATPase Pump β 1 subunit and decreased level of Kcnk6. These results indicated that norfloxacin suppressed *Leptospira*-induced inflammation through inhibiting p65 and ERK phosphorylation and NLRP3 inflammasome activation.

Reference: Microb Pathog. 2022 Jan;162:105315. <https://pubmed.ncbi.nlm.nih.gov/34826552/>

In vivo activity

Topical treatment with norfloxacin significantly suppressed the increase in the skin severity score in NC/Nga mice with AD-like skin lesions. This suppressive effect was associated with a decrease in the production of IFN-g and IL-4 in auricular lymph node cells. The present results show that topical application of norfloxacin inhibits the development of AD-like skin lesions in NC/Nga mice. This suggests that topical application of norfloxacin to AD lesions colonized with *S. aureus* would act on both superficial *S. aureus* and epidermal LCs, thus possibly inhibiting the development of Th1 and Th2 cells in vivo, and controlling the severity of AD.

Reference: J Pharm Pharm Sci. 2019 Apr 11;22(1):122-130. <https://pubmed.ncbi.nlm.nih.gov/30974054/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.