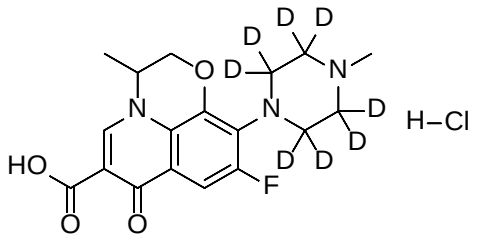
Product data sheet

MedKoo Cat#: 464182 Name: Ofloxacin-d8 HCl CAS: unknown Chemical Formula: $C_{18}H_{13}D_8ClFN_3O_4$ Exact Mass: 405.1707 Molecular Weight: 405.8802	
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:

Ofloxacin-d8 is intended for use as an internal standard for the quantification of ofloxacin by GC- or LC-MS. Ofloxacin is a broad-spectrum fluoroquinolone antibiotic that prevents supercoiling of bacterial chromosomes by DNA gyrase. It is active against Gram-positive and Gram-negative bacteria with MIC90s ranging from 0.39 to 3.13 μg/ml for clinical isolates of S. aureus, S. epidermidis, S. pyogenes, and S. faecalis and ≤0.78 μg/ml for N. gonorrhoeae and various species of Enterobacteriaceae. Ofloxacin is active in vivo, with ED50 values ranging from 0.7 to 75.1 mg/kg in infected mice. Formulations containing ofloxacin have been used to treat urinary tract infections, gonorrhea, prostatitis, and gastroenteritis.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.46 mL	12.32 mL	24.64 mL
5 mM	0.49 mL	2.46 mL	4.93 mL
10 mM	0.25 mL	1.23 mL	2.46 mL
50 mM	0.05 mL	0.25 mL	0.49 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

1. Resch MD, Resch BE, Csizmazia E, Imre L, Németh J, Révész P, Csányi E. Permeability of human amniotic membrane to ofloxacin in vitro. Invest Ophthalmol Vis Sci. 2010 Feb;51(2):1024-7. doi: 10.1167/iovs.09-4254. Epub 2009 Sep 24. PMID: 19797205.
2. Li Q, Peng S, Sheng Z, Wang Y. Ofloxacin induces oxidative damage to joint chondrocytes of juvenile rabbits: excessive production of reactive oxygen species, lipid peroxidation and DNA damage. Eur J Pharmacol. 2010 Jan 25;626(2-3):146-53. doi: 10.1016/j.ejphar.2009.09.044. Epub 2009 Oct 7. PMID: 19818344.

In vivo study

1. Grosset JH, Guelpa-Lauras CC, Perani EG, Beoletto C. Activity of ofloxacin against Mycobacterium leprae in the mouse. Int J Lepr Other Mycobact Dis. 1988 Jun;56(2):259-64. PMID: 3045223.
2. Ikeda S, Yazawa M, Nishimura C. Antiviral activity and inhibition of topoisomerase by ofloxacin, a new quinolone derivative. Antiviral Res. 1987 Oct;8(3):103-13. doi: 10.1016/0166-3542(87)90064-7. PMID: 2827566.

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7. Bioactivity

Biological target:

Ofloxacin-d8 (hydrochloride) is deuterium labeled Ofloxacin (hydrochloride).

In vitro activity

Chondrocytes from juvenile rabbit joints were incubated with ofloxacin at concentrations of 0, 5, 10, 20, 40 and 80 microg/ml, respectively. It was observed that ofloxacin induced a concentration-dependent increase in intracellular reactive oxygen species production, which may be an early mediator of ofloxacin cytotoxicity. Similarly, ofloxacin resulted in a significant lipid peroxidation, revealed by a concentration-dependent increase in the level of thiobarbituric acid reactive substances.

Reference: Eur J Pharmacol. 2010 Jan 25;626(2-3):146-53. https://pubmed.ncbi.nlm.nih.gov/19818344/

In vivo activity

The antiviral activity of ofloxacin, a new quinolone derivative, against vaccinia virus (VV), herpes simplex virus (HSV) and influenza virus (InfV) was evaluated in both in vitro and in vivo experiments. As a result, ofloxacin showed inhibitory activity against VV in cultured mammalian cells, and prevented formation of pox tail lesions in VV-infected mice. The antiviral activity of ofloxacin assessed by VV tail-lesion test was strongest when administered to mice through the oral route daily for five consecutive days post-infection.

Reference: Antiviral Res. 1987 Oct;8(3):103-13. https://pubmed.ncbi.nlm.nih.gov/2827566/

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.