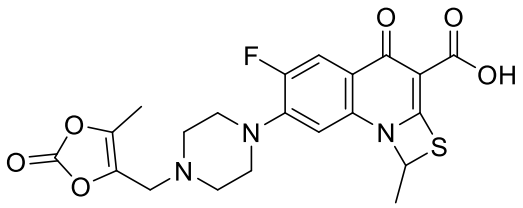
Product data sheet

MedKoo Cat#: 328337 Name: Prulifloxacin CAS: 123447-62-1 Chemical Formula: $C_{21}H_{20}FN_3O_6S$ Exact Mass: 461.1057 Molecular Weight: 461.46	
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:
Prulifloxacin, also known as NM-441, is an inhibitor of bacterial DNA gyrase used to treat urinary tract infections. Prulifloxacin is an oral fluoroquinolone with a broad in vitro activity spectrum against Gram positive and negative bacteria and among fluoroquinolones has the lowest power of inducing resistance. In vitro and in vivo studies have shown its clinical efficacy and pathogen eradication.

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
DMSO	8.17	17.70

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.17 mL	10.84 mL	21.67 mL
5 mM	0.43 mL	2.17 mL	4.33 mL
10 mM	0.22 mL	1.08 mL	2.17 mL
50 mM	0.04 mL	0.22 mL	0.43 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. Fritsche TR, Biedenbach DJ, Jones RN. Antimicrobial activity of prulifloxacin tested against a worldwide collection of gastroenteritis-producing pathogens, including those causing traveler's diarrhea. Antimicrob Agents Chemother. 2009 Mar;53(3):1221-4. doi: 10.1128/AAC.01260-08. Epub 2008 Dec 29. PMID: 19114678; PMCID: PMC2650572.
2. Gualco L, Schito AM, Schito GC, Marchese A. In vitro activity of prulifloxacin against Escherichia coli isolated from urinary tract infections and the biological cost of prulifloxacin resistance. Int J Antimicrob Agents. 2007 Jun;29(6):679-87. doi: 10.1016/j.ijantimicag.2007.01.009. Epub 2007 Mar 23. PMID: 17363225.

In vivo study

1. Giusti M, Blasi F, Iori I, Mazzone A, Sgambato F, Politi C, Colagrande P, Casali A, Valerio A, Gussoni G, Bonizzoni E, Campanini M. Prulifloxacin vs Levofloxacin for Exacerbation of COPD after Failure of Other Antibiotics. COPD. 2016 Oct;13(5):555-60. doi: 10.3109/15412555.2016.1152236. Epub 2016 Mar 30. PMID: 27027547.
2. Nandi U, Roy B, Das AK, Pal TK. Correlation among the toxicity profiling (28-days repeated oral dose toxicity), toxicokinetics and tissue distribution data of ulifloxacin, the active metabolite of prulifloxacin in Wistar albino rats. Environ Toxicol Pharmacol. 2012 Sep;34(2):588-607. doi: 10.1016/j.etap.2012.07.001. Epub 2012 Jul 14. PMID: 22885677.

7. Bioactivity

Product data sheet

Biological target:

Prulifloxacin is a fluoroquinolone antibiotic with a broad spectrum of activity against Gram-positive and -negative bacteria.

In vitro activity

In E. coli strains isolated from urinary tract infections, prulifloxacin exhibited superior potency compared to ciprofloxacin and levofloxacin with an impressive MIC(90). Prulifloxacin-resistant mutants displayed compromised growth rates, reduced fitness indices, impaired adherence capabilities to uroepithelial cells and urinary catheters, lower surface hydrophobicity, increased susceptibility to ultraviolet irradiation, resistance to colicins, and reduced plasmid transfer.

Reference: Int J Antimicrob Agents. 2007 Jun;29(6):679-87. https://pubmed.ncbi.nlm.nih.gov/17363225/

In vivo activity

Prulifloxacin was administered for 28-days in Wistar albino rats at 0, 100, 200, 400mg/kg/day followed by 14-days recovery period. It was concluded that long-term repeated dose of prulifloxacin may produce blood parameters abnormality, liver damage, stomach ulcers, joint damage, and dysfunction of lungs in rats.

Reference: Environ Toxicol Pharmacol. 2012 Sep;34(2):588-607. https://pubmed.ncbi.nlm.nih.gov/22885677/

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.