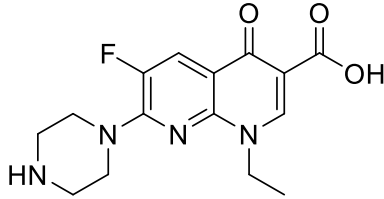


# Product data sheet



MedKoo Cat#: 317772 Name: Enoxacin CAS#: 74011-58-8 Chemical Formula: C <sub>15</sub> H <sub>17</sub> FN <sub>4</sub> O <sub>3</sub> Exact Mass: 320.12847 Molecular Weight: 320.32	
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:

Enoxacin is an oral broad-spectrum fluoroquinolone antibacterial agent used in the treatment of urinary tract infections and gonorrhea. Enoxacin is a broad-spectrum antibacterial agent that is structurally related to nalidixic acid. It acts on DNA gyrase. Insomnia is a common adverse effect. Recently, enoxacin has been shown recently that it may have cancer inhibiting effect.

## 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	23.5	73.36
DMF	0.1	0.31
PBS (pH 7.2)	10.0	31.22

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.12 mL	15.61 mL	31.22 mL
5 mM	0.62 mL	3.12 mL	6.24 mL
10 mM	0.31 mL	1.56 mL	3.12 mL
50 mM	0.06 mL	0.31 mL	0.62 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

- Xu H, Mao M, Zhao R, Zhao Q. Enoxacin Exerts Anti-Tumor Effects Against Prostate Cancer Through Inducing Apoptosis. *Technol Cancer Res Treat.* 2021 Jan-Dec;20:1533033821995284. doi: 10.1177/1533033821995284. PMID: 33641532; PMCID: PMC7923966.
- Luo X, Liu X, Tao Q, Yao C, Wang F, Gu Z, Li F, Yu X, Zhang B, Fan H, Dai M, Nie T. Enoxacin inhibits proliferation and invasion of human osteosarcoma cells and reduces bone tumour volume in a murine xenograft model. *Oncol Lett.* 2020 Aug;20(2):1400-1408. doi: 10.3892/ol.2020.11656. Epub 2020 May 21. PMID: 32724382; PMCID: PMC7377056.

### In vivo study

- Itoh A, Adams D, Huang W, Wu Y, Kachapati K, Bednar KJ, Leung PSC, Zhang W, Flavell RA, Gershwin ME, Ridgway WM. Enoxacin upregulates microRNA biogenesis and downregulates cytotoxic CD8 T cell function in autoimmune cholangitis. *Hepatology.* 2021 Jan 19. doi: 10.1002/hep.31724. Epub ahead of print. PMID: 33462854.
- Rocha AL, de Lima TI, de Souza GP, Corrêa RO, Ferrucci DL, Rodrigues B, Lopes-Ramos C, Nilsson D, Knittel TL, Castro PR, Fernandes MF, Dos Santos Martins F, Parmigiani RB, Silveira LR, Carvalho HF, Auwerx J, Vinolo MAR, Boucher J, Mori MA.

# Product data sheet



Enoxacin induces oxidative metabolism and mitigates obesity by regulating adipose tissue miRNA expression. *Sci Adv.* 2020 Dec 2;6(49):eabc6250. doi: 10.1126/sciadv.abc6250. PMID: 33268375; PMCID: PMC7710362.

## 7. Bioactivity

Biological target:

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Enoxacin (AT 2266), interferes with DNA replication and inhibits bacterial DNA gyrase (IC<sub>50</sub>=126 µg/ml) and topoisomerase IV (IC<sub>50</sub>=26.5 µg/ml).

In vitro activity

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Enoxacin demonstrated potent anti-proliferative activities against PC-3 cells in a dose-dependent manner, evidenced by counting the cell number and MTT assay (Figure 1).

Reference: *Technol Cancer Res Treat.* 2021; 20: 1533033821995284. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7923966/>

In vivo activity

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Mice treated with enoxacin gained 31% less weight on HFD in comparison to vehicle-treated mice (Fig. 2A). This was accompanied by reduced WAT mass and no changes in BAT mass (Fig. 2B). Consistent with reduced adiposity, enoxacin treatment decreased fasting glucose levels (Fig. 2C), improved glucose tolerance (Fig. 2, D and E), and increased insulin sensitivity (Fig. 2, F and G), although no differences were observed in insulin levels (fig. S3A).

Reference: *Sci Adv.* 2020 Dec; 6(49): eabc6250. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7710362/>

*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.*