

Product data sheet



MedKoo Cat#: 561413 Name: Nifuratel CAS: 4936-47-4 Chemical Formula: C ₁₀ H ₁₁ N ₃ O ₅ S Exact Mass: 285.0419 Molecular Weight: 285.274	
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:

Nifuratel is a local antiprotozoal and antifungal agent that may also be given orally. Nifuratel is a drug used in gynecology.

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	53.5	187.54

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.51 mL	17.53 mL	35.05 mL
5 mM	0.70 mL	3.51 mL	7.01 mL
10 mM	0.35 mL	1.75 mL	3.51 mL
50 mM	0.07 mL	0.35 mL	0.70 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. Zheng H, Hong H, Zhang L, Cai X, Hu M, Cai Y, Zhou B, Lin J, Zhao C, Hu W. Nifuratel, a novel STAT3 inhibitor with potent activity against human gastric cancer cells. *Cancer Manag Res.* 2017 Nov 1;9:565-572. doi: 10.2147/CMAR.S146173. PMID: 29138596; PMCID: PMC5677376.

In vivo study

1. Domínguez-Asenjo B, Gutiérrez-Corbo C, Álvarez-Bardón M, Pérez-Pertejo Y, Balaña-Fouce R, Reguera RM. Ex Vivo Phenotypic Screening of Two Small Repurposing Drug Collections Identifies Nifuratel as a Potential New Treatment against Visceral and Cutaneous Leishmaniasis. *ACS Infect Dis.* 2021 Aug 13;7(8):2390-2401. doi: 10.1021/acsinfectdis.1c00139. Epub 2021 Jun 11. PMID: 34114790.

7. Bioactivity

Biological target:

Nifuratel(NF 113, SAP 113) is a broad antibacterial spectrum agent, which is used as an antibacterial, antifungal, and antiprotozoal (Trichomonas).

In vitro activity

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This study reports that nifuratel, an antiprotozoal and antifungal drug, is a potent inhibitor of STAT3. This study found that nifuratel significantly suppressed proliferation and induced apoptosis of gastric cancer cells. Studies of the mechanism of action of nifuratel indicated that it acts by inhibiting the constitutive and interleukin-6-induced STAT3 activation.

Reference: Cancer Manag Res. 2017 Nov 1;9:565-572. <https://pubmed.ncbi.nlm.nih.gov/29138596/>

In vivo activity

From the total of 1769 compounds, 12 hits with selective indices >35 were identified, and 4 of them were tested in vivo in a model of *L. donovani* visceral leishmaniasis. Nifuratel, a repurposed synthetic nitrofurantoin, when administered orally at 50 mg/kg bw once or twice a day for 10 days, caused >80% reduction in the parasitic load. Furthermore, the intralésional administration of nifuratel in a model of cutaneous leishmaniasis by *L. major* produced the parasitological cure.

Reference: ACS Infect Dis. 2021 Aug 13;7(8):2390-2401. <https://pubmed.ncbi.nlm.nih.gov/34114790/>

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.