

Product data sheet



MedKoo Cat#: 471034 Name: Nepodin CAS: 3785-24-8 Chemical Formula: C ₁₃ H ₁₂ O ₃ Exact Mass: 216.0786 Molecular Weight: 216.236		
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:

Nepodin, also known as Musizin; is a naphthol that has been found in Rumex and has diverse biological activities

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	125.0	578.07

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.62 mL	23.12 mL	46.25 mL
5 mM	0.92 mL	4.62 mL	9.25 mL
10 mM	0.46 mL	2.31 mL	4.62 mL
50 mM	0.09 mL	0.46 mL	0.92 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

- Lee JH, Kim YG, Khadke SK, Yamano A, Watanabe A, Lee J. Inhibition of Biofilm Formation by Candida albicans and Polymicrobial Microorganisms by Nepodin via Hyphal-Growth Suppression. ACS Infect Dis. 2019 Jul 12;5(7):1177-1187. doi: 10.1021/acsinfecdis.9b00033. Epub 2019 May 10. Erratum in: ACS Infect Dis. 2020 May 8;6(5):1283. PMID: 31055910.
- Tharsius Raja WR, Antony S, Pachaiyappan S, Amalraj J, Narasimhan P, Keduki B, Veeramuthu D, Perumal P, Savarimuthu I. Antibacterial Activity study of Musizin isolated from Rhamnus wightii Wight and Arn. Bioinformation. 2018 Dec 21;14(9):511-520. doi: 10.6026/97320630014511. PMID: 31223211; PMCID: PMC6563663.

In vivo study

- Ha BG, Yonezawa T, Son MJ, Woo JT, Ohba S, Chung UI, Yagasaki K. Antidiabetic effect of nepodin, a component of Rumex roots, and its modes of action in vitro and in vivo. Biofactors. 2014 Jul-Aug;40(4):436-47. doi: 10.1002/biof.1165. Epub 2014 Apr 23. PMID: 24756979.
- Lee KH, Rhee KH. Antimalarial activity of nepodin isolated from Rumex crispus. Arch Pharm Res. 2013 Apr;36(4):430-5. doi: 10.1007/s12272-013-0055-0. Epub 2013 Feb 26. PMID: 23440579.

7. Bioactivity

Biological target:

Nepodin (Muszine) is a quinone oxidoreductase (PfNDH2) inhibitor.

Product data sheet



In vitro activity

Nepodin effectively inhibited *C. albicans* biofilm formation without affecting its planktonic cell growth. Also, Rumex-root extract and nepodin both inhibited hyphal growth and cell aggregation of *C. albicans*. Interestingly, nepodin also showed antibiofilm activities against *Candida glabrata*, *Candida parapsilosis*, *Staphylococcus aureus*, and *Acinetobacter baumannii* strains and against dual biofilms of *C. albicans* and *S. aureus* or *A. baumannii* but not against *Pseudomonas aeruginosa*.

Reference: ACS Infect Dis. 2019 Jul 12;5(7):1177-1187. <https://pubmed.ncbi.nlm.nih.gov/31055910/>

In vivo activity

In in vivo study, nepodin suppressed the increases in fasting blood glucose levels and improved the glucose intolerance of C57BL/KsJ-db/db mice, a type 2 diabetic animal model. Nepodin rescued the impaired phosphorylation of AMPK in the skeletal muscle of db/db mice.

Reference: Biofactors. 2014 Jul-Aug;40(4):436-47. <https://pubmed.ncbi.nlm.nih.gov/24756979/>

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.