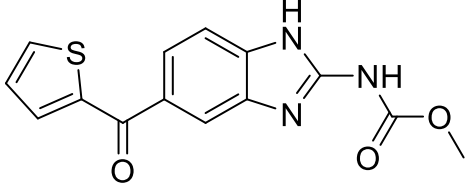


Product data sheet



MedKoo Cat#: 100668 Name: Nocodazole CAS: 31430-18-9 Chemical Formula: C ₁₄ H ₁₁ N ₃ O ₃ S Exact Mass: 301.0521 Molecular Weight: 301.32	
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:

Nocodazole is a microtubule inhibitor which exerts its effect in cells by interfering with the polymerization of microtubules. Microtubules are one type of fibre which constitutes the cytoskeleton, and the dynamic microtubule network has several important roles in the cell, including vesicular transport, forming the mitotic spindle and in cytokinesis. Several drugs including vincristine and colcemid are similar to nocodazole in that they interfere with microtubule polymerisation. (Source: <http://en.wikipedia.org/wiki/Nocodazole>)

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
DMF	3.0	9.96
DMSO	11.89	39.47
DMSO:PBS (pH 7.2) (1:3)	0.25	0.83

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.32 mL	16.59 mL	33.19 mL
5 mM	0.66 mL	3.32 mL	6.64 mL
10 mM	0.33 mL	1.66 mL	3.32 mL
50 mM	0.07 mL	0.33 mL	0.66 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

- Signoretto E, Honisch S, Briglia M, Faggio C, Castagna M, Lang F. Nocodazole Induced Suicidal Death of Human Erythrocytes. *Cell Physiol Biochem*. 2016;38(1):379-92. doi: 10.1159/000438638. Epub 2016 Jan 29. PMID: 26824457.
- Ganguly A, Yang H, Sharma R, Patel KD, Cabral F. The role of microtubules and their dynamics in cell migration. *J Biol Chem*. 2012 Dec 21;287(52):43359-69. doi: 10.1074/jbc.M112.423905. Epub 2012 Nov 7. PMID: 23135278; PMCID: PMC3527923.

In vivo study

- Reyes AW, Hop HT, Arayan LT, Huy TX, Min W, Lee HJ, Chang HH, Kim S. Nocodazole treatment interrupted *Brucella abortus* invasion in RAW 264.7 cells, and successfully attenuated splenic proliferation with enhanced inflammatory response in mice. *Microb Pathog*. 2017 Feb;103:87-93. doi: 10.1016/j.micpath.2016.11.028. Epub 2016 Dec 23. PMID: 28017899.
- Attia SM, Ahmad SF, Okash RM, Bakheet SA. Dominant lethal effects of nocodazole in germ cells of male mice. *Food Chem Toxicol*. 2015 Mar;77:101-4. doi: 10.1016/j.fct.2015.01.004. Epub 2015 Jan 13. PMID: 25595372.

Product data sheet



7. Bioactivity

Biological target:

Nocodazole (Oncodazole) is a rapidly-reversible inhibitor of microtubule.

In vitro activity

A 48 hours exposure of human erythrocytes to nocodazole ($\geq 30 \mu\text{g/ml}$) significantly increased the percentage of annexin-V-binding cells without significantly modifying average forward scatter. Nocodazole significantly increased Fluo3-fluorescence, significantly increased DCF fluorescence and significantly increased ceramide surface abundance.

Reference: Cell Physiol Biochem. 2016;38(1):379-92. <https://pubmed.ncbi.nlm.nih.gov/26824457/>

In vivo activity

For the in vivo tests, nocodazole -treated mice displayed elevated levels of IFN- γ , MCP-1 and IL-10 while Brucella-infected nocodazole -treated mice showed high levels of TNF, IFN- γ , MCP-1, IL-10 and IL-6 as compared to controls. Furthermore, nocodazole treatment reduced inflammation and Brucella proliferation in the spleens of mice.

Reference: Microb Pathog. 2017 Feb;103:87-93. <https://pubmed.ncbi.nlm.nih.gov/28017899/>

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.