

PRODUCT INFORMATION



Nocodazole

Item No. 13857

CAS Registry No.: 31430-18-9

Formal Name: N-[6-(2-thienylcarbonyl)-1H-benzimidazol-2-yl]-carbamic acid, methyl ester

Synonyms: NSC 238159, Oncodazole, R 17934

MF: $C_{14}H_{11}N_3O_3S$

FW: 301.3

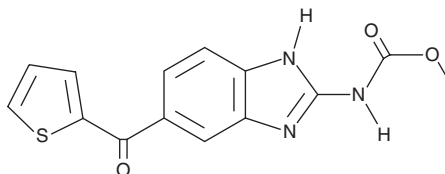
Purity: $\geq 98\%$

UV/Vis.: λ_{max} : 214, 258, 315 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nocodazole is supplied as a crystalline solid. A stock solution may be made by dissolving the nocodazole in the solvent of choice, which should be purged with an inert gas. Nocodazole is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of nocodazole in these solvents is approximately 5 and 3 mg/ml, respectively.

Nocodazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, nocodazole should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Nocodazole has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Nocodazole is an antimetabolic agent.¹ It increases tubulin GTP hydrolysis four-fold and induces tubulin depolymerization.^{1,2} Nocodazole (4 $\mu\text{g/ml}$) halts the cell cycle in the mitotic phase and synchronizes WI38 cells in the G_2/M phase.³ It also decreases neuronal mitochondrial transport and density in a transgenic zebrafish model with neurons expressing fluorescent proteins in mitochondrial and cell membranes when used at a concentration of 400 nM.⁴

References

1. Mejillano, M.R., Shivanna, B.D., and Himes, R.H. Studies on the nocodazole-induced GTPase activity of tubulin. *Arch. Biochem. Biophys.* **336**(1), 130-138 (1996).
2. Thyberg, J. and Moskalewski, S. Role of microtubules in the organization of the Golgi complex. *Exp. Cell Res.* **246**(2), 263-279 (1999).
3. Lee, J.Y., Leonhardt, L.G., and Obeid, L.M. Cell-cycle-dependent changes in ceramide levels preceding retinoblastoma protein dephosphorylation in G_2/M . *Biochem. J.* **334**(Pt 2), 457-461 (1998).
4. Plucińska, G., Paquet, D., Hruscha, A., et al. *In vivo* imaging of disease-related mitochondrial dynamics in a vertebrate model system. *J. Neurosci.* **32**(46), 16203-16212 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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