Catalog # 10-2387

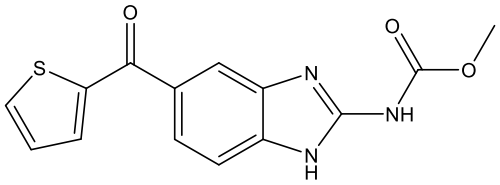
Nocodazole

CAS# 31430-18-9

R-17934

Methyl[5-(2-thienylcarbonyl)-1H-benzimidazol-2-yl]carbamate

Lot # S106108



An antimitotic agent that disrupts microtubules by binding to β tubulin and thereby inhibiting microtubule dynamics, disruption of mitotic spindle function, and fragmentation of the Golgi complex.[1,2] Arrests cell cycle at G2/M phase. Stimulates the intrinsic GTPase activity of tubulin.[3] Activates the JNK/SAPK signaling pathway and induces apoptosis in a variety of cell lines.[4] Increases Cas9-mediated editing frequencies[5] and increased CRISPR-mediated HDR DNA repair[6].Cell permeable.

1) Jordan *et al.* (1992), *Effects of vinblastine, podophyllotoxin and nocodazole on mitotic spindles. Implications for the role of microtubule dynamics in mitosis*; J. Cell Science, **102** 401
2) Storrie *et al.* (1998), *Dynamics of the interphase mammalian Golgi complex as revealed through drugs producing reversible Golgi disassembly*; Biochim. Biophys. Acta, **1404** 127
3) Mejillano *et al.* (1996), *Studies on the nocodazole-induced GTPase activity of tubulin*; Arch. Biochem. Biophys., **336** 130
4) Wang *et al.* (1998), *Microtubule-interfering agents activate c-Jun N-terminal kinase/stress-activated protein kinase through both Ras and apoptosis signal-regulating kinase pathways*; J. Biol. Chem., **273** 4928
5) Lin *et al*. (2014), *Enhanced homology-directed human genome engineering by controlled timing of CRSIPR/Cas9 delivery*; eLife, **3** e04766
6) Li *et al*. (2023), *Modulation of cell cycle increases CRISPR-mediated homology-directed DNA repair*; Cell Biosci., **13** 215

PHYSICAL DATA

Molecular Weight:	301.32
Molecular Formula:	$C_{14}H_{11}N_3O_3S$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 10 mg/ml with warming)
Physical Description:	Yellow solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 2 months.

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