

Nocodazole

10 mg



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Background

Nocodazole is an anti-neoplastic agent that reversibly interferes with the polymerization of microtubules (1). Widely-used as a cell cycle synchronizing agent in cell biology labs to induce mitotic arrest, investigators have demonstrated that high concentrations of nocodazole induce microtubule depolymerization, whereas low concentrations alter spindle microtubule dynamics, but microtubules do not depolymerize (2-4). Recent research studies have demonstrated nocodazole to be a common inhibitor of various cancer-related kinases, including: ABL, c-KIT, BRAF, MEK1, MEK2, and MET (5).

Molecular Formula

$C_{14}H_{11}N_3O_3S$

Molecular Weight

301.3 g/mol

Purity

>98%

CAS

31430-18-9

Solubility

Soluble in DMSO at 10mg/ml.

Storage

Store lyophilized at room temperature or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 2 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

Nocodazole is supplied as a lyophilized powder. For a 1 mg/ml stock, reconstitute the 10 mg in 10 ml DMSO. Working concentrations and length of treatments vary depending on the desired effect, but it is typically used at 0.1-1 µg/ml for 12-48 hr. Soluble in DMSO.

Background References

1. De Brabander, M.J. et al. (1976) *Cancer Res* 36, 905-16.
2. Vasquez, R.J. et al. (1997) *Mol Biol Cell* 8, 973-85.
3. Jordan, M.A. et al. (1992) *J Cell Sci* 102 (Pt 3), 401-16.
4. Blajeski, A.L. et al. (2002) *J Clin Invest* 110, 91-9.
5. Park, H. et al. (2012) *ChemMedChem* 7, 53-6.

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