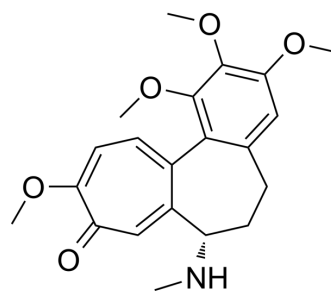


Demecolcine

Cat. No.:	HY-N0282		
CAS No.:	477-30-5		
Molecular Formula:	C ₂₁ H ₂₅ NO ₅		
Molecular Weight:	371.43		
Target:	Microtubule/Tubulin; Apoptosis		
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (67.31 mM; ultrasonic and warming and heat to 60°C)
 H₂O : 5 mg/mL (13.46 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.6923 mL	13.4615 mL	26.9230 mL
	5 mM	0.5385 mL	2.6923 mL	5.3846 mL
	10 mM	0.2692 mL	1.3461 mL	2.6923 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Demecolcine is a potent mitotic inhibitor with an IC₅₀ value of 2.4 μM for inhibition of tubulin polymerization. Colcemid (Demecolcine) can interact with tubulin dimers to induce anti-mitotic action and inhibit microtubule growth. Colcemid (Demecolcine) can be used for inflammatory disorders and cancer research^{[1][2]}.

In Vitro

Demecolcine (0.1-0.25 μg/ml, 1 h) reduces the the hypoploidy frequencies in metaphase II complements of mouse, rat and frog spermatocytes^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Demecolcine (0.3 mg/kg for intraperitoneal injection) increases the incidence of metaphase II hypoploidy in demecolcine treated mice^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Mice ^[3]
Dosage:	0.3 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Elevated 7.8-8-fold of the hypoploid and hyperploid frequencies in metaphase II cells relative to controls.

CUSTOMER VALIDATION

- Protein Cell. 2022 Jan;13(1):47-64.
- Cancer Lett. 2022 Aug 20;215855.
- Oncol Lett. 2023 Apr 19,25(6): 1-6.

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[2]. Muzaffar A, et al. Antitubulin effects of derivatives of 3-demethylthiocolchicine, methylthio ethers of natural colchicinoids, and thioketones derived from thiocolchicine. Comparison with colchicinoids. J Med Chem. 1990 Feb;33(2):567-71.

[3]. Rislely MS, et al. An improved method for cytogenetic analysis of meiotic aneuploidy in rodent and frog spermatocytes. Mutat Res. 1990 Dec;234(6):361-8.

[4]. T Tsuchida, et al. Colcemid-induced apoptosis of cultured human glioma: electron microscopic and confocal laser microscopic observation of cells sorted in different phases of cell cycle. Cytometry. 1998 Apr 1;31(4):295-9.

[5]. Ashley M Rozario, et al. Ultra-Low Colcemid Doses Induce Microtubule Dysfunction as Revealed by Super-Resolution Microscopy. Bioexiv.

Caution: Product has not been fully validated for medical applications. For research use only.

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