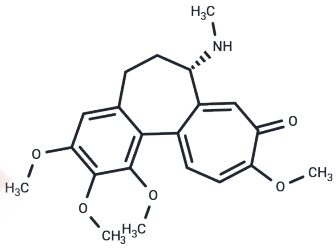
Data Sheet (Cat.No.T19720)

TargetMol

Colcemid

Chemical Properties



CAS No. : 477-30-5

Formula: C21H25NO5

Molecular Weight: 371.43

Storage: Keep away from moisture,Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Colcemid (NSC-3096) is a microtubule polymerization inhibitor that primarily targets tubulin, with an IC_{50} of 2.4 μM. Demecolcine interacts with tubulin dimers, induces antimitotic effects, and inhibits microtubule growth. Colcemid is a classic reagent used in karyotyping, banding techniques, and cell cycle synchronization. Colcemid can induce apoptosis and is used in studies of tumor and embryonic cloning.
Targets(IC50)	Apoptosis,Microtubule Associated
In vitro	**Methods**: In a co-culture system of neonatal rat cardiomyocytes (CM) and myofibroblasts (MF), mitochondria were labeled with Ad-Mito-EGFP. After 4-hour treatment with Colcemid (4 μM), live cells were tracked in real-time using confocal microscopy to monitor mitochondrial movement within MNTs, and migration velocity was calculated. **Results**: Colcemid treatment significantly reduced mitochondrial migration speed within MNTs but did not affect MNT formation. [1]

Solubility Information

Solubility	DMSO: 55 mg/mL (148.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.38 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6923 mL	13.4615 mL	26.923 mL
5 mM	0.5385 mL	2.6923 mL	5.3846 mL
10 mM	0.2692 mL	1.3461 mL	2.6923 mL
50 mM	0.0538 mL	0.2692 mL	0.5385 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Shen J, et al. Mitochondria are transported along microtubules in membrane nanotubes to rescue distressed cardiomyocytes from apoptosis. Cell Death Dis. 2018 Jan 23;9(2):81.

Yin Y, Mei M, Zhang D, Zhang S, Fan A, Zhou H, Li Z. The construction of cloned Sika deer embryos (Cervus nippon hortulorum) by demecolcine auxiliary enucleation. Reprod Domest Anim. 2014 Feb;49(1):164-9. doi: 10.1111/rda.12246. Epub 2013 Oct 21.

Meng Q, Wu X, Bunch TD, White K, Sessions BR, Davies CJ, Rickords L, Li GP. Enucleation of demecolcine-treated bovine oocytes in cytochalasin-free medium: mechanism investigation and practical improvement. Cell Reprogram. 2011 Oct;13(5):411-8. doi: 10.1089/cell.2011.0012. Epub 2011 Jul 8.

Saraiva NZ, Perecin F, Méo SC, Ferreira CR, Tetzner TA, Garcia JM. Demecolcine effects on microtubule kinetics and on chemically assisted enucleation of bovine oocytes. Cloning Stem Cells. 2009 Mar;11(1):141-52. doi: 10.1089/clo.2008.0044.