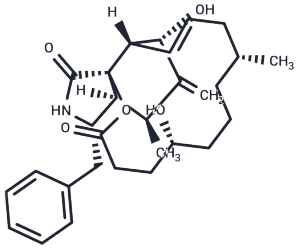
Data Sheet (Cat.No.T11042)

TargetMol

Dihydrocytochalasin B

Chemical Properties



CAS No. : 39156-67-7

Formula: C29H39NO5

Molecular Weight: 481.62

Storage: 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	Dihydrocytochalasin B (H2CB) is a cell division inhibitor that prevents cytokinesis, alters cell morphology, disrupts actin structures in Swiss/3T3 mouse fibroblasts, and inhibits DNA synthesis induced by serum growth factors in quiescent cultures. Low doses of H2CB lead to cell rounding and the loss of actin microfilament bundles.
Targets(IC50)	Microtubule Associated,Arp2/3 Complex
In vitro	Dihydrocytochalasin B (2-10 X 10 (-7) M) disrupts the actin structure of Swiss/3T3 mouse fibroblasts and inhibits the ability of serum growth factor to stimulate DNA synthesis in static cultures. Low doses of H2CB cause cell rounding and loss of actin microfilaments, but they do not interfere with glucose or thymidine transport. [1] Dihydrocytochalasin B enhances reexpression of the phenotype of transformed growth factor-β induced differentiated chondrocytes without stimulating collagen synthesis. [2] Dihydrocytochalasin B (25 μg/mL) inhibited active calcium transport in intestinal absorption cells and led to increased Ca concentration in mucosal scrape. [3] The IC50 and IC80 of P388/ADR leukemia cell lines inhibited by Dihydrocytochalasin B were 28 μM and 48 μM, respectively. [4]
In vivo	Dihydrocytochalasin B (10 μM) is not toxic to zebrafish. Dihydrocytochalasin B is 20 times less toxic in mice than cytorelaxin D. [5]

Solubility Information

Solubility	DMSO: 20 mg/mL (41.53 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0763 mL	10.3816 mL	20.7633 mL
5 mM	0.4153 mL	2.0763 mL	4.1527 mL
10 mM	0.2076 mL	1.0382 mL	2.0763 mL
50 mM	0.0415 mL	0.2076 mL	0.4153 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

Maness PF, et al. Dihydrocytochalasin B disorganizes actin cytoarchitecture and inhibits initiation of DNA synthesis in 3T3 cells. Cell. 1982 Aug;30(1):253-62.
Benya PD, et al. Dihydrocytochalasin B enhances transforming growth factor-beta-induced reexpression of the differentiated chondrocyte phenotype without stimulation of collagen synthesis. Exp Cell Res. 1993 Feb;204(2):268-77.
Jande SS, et al. Effects of cytochalasin B and dihydrocytochalasin B on calcium transport by intestinal absorptive cells. Calcif Tissue Int. 1981;33(2):143-51.
Trendowski M, et al. Chemotherapy with cytochalasin congeners in vitro and in vivo against murine models. Invest New Drugs. 2015 Apr;33(2):290-9.
Trendowski M, et al. Tolerated doses in zebrafish of cytochalasins and jasplakinolide for comparison with tolerated doses in mice in the evaluation of pre-clinical activity of microfilament-directed agents in tumor model systems in vivo. In Vivo. 2014 Nov-Dec;28(6):1021-31.