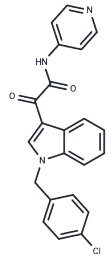
Data Sheet (Cat.No.T15576)

TargetMol

Indibulin

Chemical Properties



CAS No. : 204205-90-3

Formula: C22H16ClN3O2

Molecular Weight: 389.83

Storage: 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	Indibulin (D 24851) is a synthetic small molecule with antimitotic and potential antineoplastic activities.Indibulin an orally applicable inhibitor of tubulin assembly, shows potent anticancer activity with a minimal neurotoxicity. Indibulin reduces inter-kinetochoric tension, produces aberrant spindles, activates mitotic checkpoint proteins Mad2 and BubR1, and induces mitotic arrest and apoptosis.
Targets(IC50)	Apoptosis,Microtubule Associated,Chk
In vitro	Indibulin, a synthetic inhibitor of tubulin assembly, has shown promising anticancer activity.?Using time-lapse confocal microscopy, indibulin dampens the dynamic instability of individual microtubules in live breast cancer cells.?Indibulin treatment also perturbed the localization of end-binding proteins at the growing microtubule ends in MCF-7 cells.?Indibulin reduced inter-kinetochoric tension, produced aberrant spindles, activated mitotic checkpoint proteins Mad2 and BubR1, and induced mitotic arrest in MCF-7 cells.?Indibulin-treated MCF-7 cells underwent apoptosis-mediated cell death.?Further, the combination of indibulin with an anticancer drug vinblastine was found to exert synergistic cytotoxic effects on MCF-7 cells.?Interestingly, indibulin displayed a stronger effect on the undifferentiated neuroblastoma (SH-SY5Y) cells than the differentiated neuronal cells.?Unlike indibulin, vinblastine and colchicine produced similar depolymerizing effects on microtubules in both differentiated and undifferentiated SH-SY5Y cells.

Solubility Information

Solubility	DMSO: 50 mg/mL (128.26 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (6.41 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	2.5652 mL	12.8261 mL	25.6522 mL
5 mM	0.513 mL	2.5652 mL	5.1304 mL
10 mM	0.2565 mL	1.2826 mL	2.5652 mL
50 mM	0.0513 mL	0.2565 mL	0.513 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

Kapoor S, et al. Indibulin dampens microtubule dynamics and produces synergistic antiproliferative effect with vinblastine in MCF-7 cells: Implications in cancer chemotherapy. Sci Rep. 2018 Aug 17;8(1):12363.