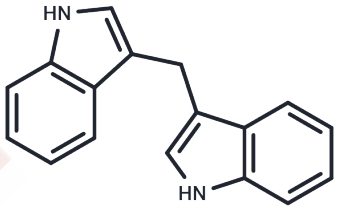
Data Sheet (Cat.No.T2991)

TargetMol

3,3'-Diindolylmethane

Chemical Properties



CAS No. : 1968-05-4

Formula: C17H14N2

Molecular Weight: 246.31

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	3,3'-Diindolylmethane (DIM), a small molecule compound, is a proposed Y preventive agent.
Targets(IC50)	Androgen Receptor,Autophagy
In vitro	3,3'-Diindolylmethane is a potent radioprotector and mitigator that functions by stimulating an ATM-driven DDR-like response and NF-κB survival signaling. 3,3'-Diindolylmethane can inhibit invasion, angiogenesis, and proliferation and induce apoptosis in tumor cells by modulating signaling pathways involving AKT, NF-κB, and FOXO3. It can also inhibit estrogen-inducible gene expression and cause an endoplasmic reticulum stress response. 3,3'-Diindolylmethane alters estrogen metabolism by shifting metabolism from carcinogenic 16α-hydroxy to inert 2-hydroxy derivatives, and it antagonizes estrogen and androgen receptor activity[1].
In vivo	Preliminary studies show 3,3'-Diindolylmethane is most effective against total body irradiation (TBI) when given in multiple once-daily doses. Treatment of 3,3'-Diindolylmethane has radioprotection and mitigation properties in vivo. 3,3'-Diindolylmethane Activates ATM in Normal Tissues. 3,3'-Diindolylmethane can be given to mice (250 mg/kg) by oral gavage, with no acute toxicity and excellent bioavailability [1].
Cell Research	The 184A1 and Hs578Bst cells are pretreated with DIM (0.3 μM) or vehicle for 24 h, irradiated by using different doses of 137Cs γ rays, harvested, plated at different densities, incubated for 14 d, and counted for colony formation.(Only for Reference)

Solubility Information

Solubility	Ethanol: 18 mg/mL (73.08 mM),Sonication is recommended. DMSO: 500 mg/mL (2029.96 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 (8.12 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	4.0599 mL	20.2996 mL	40.5992 mL
5 mM	0.812 mL	4.0599 mL	8.1198 mL
10 mM	0.406 mL	2.030 mL	4.0599 mL
50 mM	0.0812 mL	0.406 mL	0.812 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

Saijun Fan, et al. PNAS. 2013, 110(46):18650-18655.