DIM-C-pPhOCH3

Cat. No.: HY-111492

CAS No.: 33985-68-1

Molecular Formula: $C_{24}H_{20}N_2O$

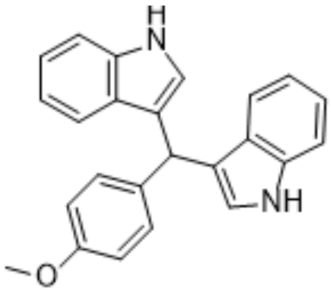
Molecular Weight: 352.43

Target: Nuclear Hormone Receptor 4A/NR4A

Pathway: Vitamin D Related/Nuclear Receptor

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 33.3 mg/mL (94.49 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8374 mL	14.1872 mL	28.3744 mL
5 mM	0.5675 mL	2.8374 mL	5.6749 mL
10 mM	0.2837 mL	1.4187 mL	2.8374 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.09 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DIM-C-pPhOCH$_3$ is a Nur77 agonist. Nerve growth factor-induced Bα (NGFI-Bα, Nur77) is an orphan nuclear receptor.

IC_{50} & Target

Nur77/NR4A1

In Vitro

DIM-C-pPhOCH$_3$ decreases survival and induces apoptosis in RKO colon cancer cells, and this is accompanied by induction of tumor necrosis factor–related apoptosis-inducing ligand (TRAIL) protein. DIM-C-pPhOCH$_3$ also induces Nur77-independent apoptosis. DIM-C-pPhOCH$_3$ (10 μM) inhibits cell growth after treatment for 24, 48, or 72 h, and the maximum inhibitory response is observed after 72 h, where there is considerable cell detachment and dead cells. The growth-inhibitory effects observed for DIM-C-pPhOCH$_3$ after 72 h are also accompanied by several markers of apoptosis, including

	PARP cleavage and cleavage of caspase-3, caspase-9, and caspase-8. PARP cleavage is also observed after treatment of RKO cells for 48 h with DIM-C-pPhOCH$_3$[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	DIM-C-pPhOCH$_3$ (25 mg/kg/d) also inhibits tumor growth in athymic nude mice bearing RKO cell xenografts. The effects of DIM-C-pPhOCH$_3$ (25 mg/kg/d) on colon tumor growth are also investigated in athymic nude mice bearing RKO cell xenografts. Treatment with the DIM-C-pPhOCH$_3$ significantly decreases tumor volumes and final tumor weights compared with corn oil controls[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	RKO cells are treated with DMSO or 12.5 μM DIM-C-pPhOCH$_3$ for 2 and 6 h. RNA is isolated for the reverse transcription-PCR (RT-PCR) experiment and analyzed for gene expression, and three replicates are determined for each time point and the DMSO control. The microarray data are analyzed[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice[1] Male athymic nude mice (***Foxn1^{nu}***, ages 7-8 weeks) are used. The mice are housed and maintained in laminar flow cabinets under specific pathogen-free conditions. A xenograft is established by s.c. injection of in vitro cultured RKO cells (5×10^6 per 150 μL) into the flanks of individual mice. Tumors are allowed to grow for 4 days until tumors are palpable. Mice are then randomized into two groups of six mice per group and dosed by oral gavage with either corn oil or 25 mg/kg/d DIM-C-pPhOCH$_3$ for 21 days. The mice are weighed, and tumor size is measured[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Cho SD, et al. Nur77 agonists induce proapoptotic genes and responses in colon cancer cells through nuclear receptor-dependent and nuclear receptor-independent pathways. Cancer Res. 2007 Jan 15;67(2):674-83.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA