DIM-C-pPhOH

Cat. No.: HY-112055

CAS No.: 151358-47-3

Molecular Formula: $C_{23}H_{18}N_2O$

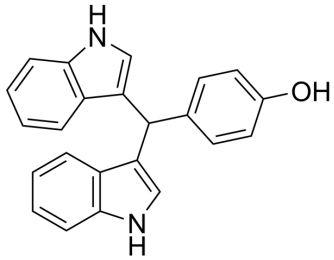
Molecular Weight: 338.4

Target: Apoptosis; Nuclear Hormone Receptor 4A/NR4A

Pathway: Apoptosis; 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 : 125 mg/mL (369.39 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9551 mL	14.7754 mL	29.5508 mL
5 mM	0.5910 mL	2.9551 mL	5.9102 mL
10 mM	0.2955 mL	1.4775 mL	2.9551 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: ≥ 2.08 mg/mL (6.15 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.15 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.15 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DIM-C-pPhOH is a nuclear receptor 4A1 (NR4A1) antagonist. DIM-C-pPhOH inhibits cancer cell growth and mTOR signaling, induce apoptosis and cellular stress. DIM-C-pPhOH reduces cell proliferation with IC50 values of 13.6 μM and 13.0 μM for ACHN cells and 786-O cells, respectively[1].

IC_{50} & Target

Nur77/NR4A1

In Vitro

DIM-C-pPhOH (7.5-20 μM; 24 hours; ACHN and 786-O cells) treatment significantly decreases cell proliferation[1].

DIM-C-pPhOH (20 μM; 24 hours; ACHN and 786-O cells) treatment induces Annexin V staining in ACHN and 786-O cells, confirming that DIM-C-pPhOH induce apoptosis, and also induces cleavage of caspases 7 and 8[1].
DIM-C-pPhOH (15-20 μM; 24 hours; ACHN and 786-O cells) treatment inhibits NR4A1-regulated expression of survivin, bcl-2 and EGFR in ACHN and 786-O cells. And also induces sestrin 2, activates AMPKα and inhibits activation of mTOR and downstream kinases[1].
DIM-C-pPhOH decreases expression of β1-integrin protein and mRNA and β1-integrin-dependent responses in MCF7, MDA-MB-231, and SKBR3 cells and also inhibits migration of the latter two cell lines[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	ACHN and 786-O cells
Concentration:	7.5 μM, 15 μM, 20 μM
Incubation Time:	24 hours
Result:	Significantly decreased cell proliferation.

Apoptosis Analysis[1]

Cell Line:	ACHN and 786-O cells
Concentration:	20 μM
Incubation Time:	24 hours
Result:	Induced apoptosis in ACHN and 786-O cells.

Western Blot Analysis[1]

Cell Line:	ACHN and 786-O cells
Concentration:	15 μM, 20 μM
Incubation Time:	24 hours
Result:	Inhibited NR4A1-regulated expression of survivin, bcl-2 and EGFR in ACHN and 786-O cells. And also induced sestrin 2, activated AMPKα and inhibited activation of mTOR and downstream kinases.

In Vivo

DIM-C-pPhOH (30 mg/kg; oral gavage; daily; for 50 days; male athymic nude mice) treatment results in a significant inhibition of tumor growth[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male athymic nude mice (aged 6-7 weeks) injected with ACHN cells[1]
Dosage:	30 mg/kg/day
Administration:	Oral gavage; daily; for 50 days
Result:	Resulted in a significant inhibition of tumor growth.

CUSTOMER VALIDATION

- Redox Biol. 2021 Jan;38:101807.
- J Ethnopharmacol. 2024 Jan 7:117690.
- J Cardiovasc Transl Res. 2023 May 30.

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REFERENCES

[1]. Hedrick E, et al. Nuclear Receptor 4A1 (NR4A1) as a Drug Target for Renal Cell Adenocarcinoma. PLoS One. 2015 Jun 2;10(6):e0128308.

[2]. Hedrick E, et al. NR4A1 Antagonists Inhibit β1-Integrin-Dependent Breast Cancer Cell Migration. Mol Cell Biol. 2016 Apr 15;36(9):1383-94.

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