Ingenol 3,20-dibenzoate

Cat. No.: HY-137295

CAS No.: 59086-90-7

Molecular Formula: $C_{34}H_{36}O_7$

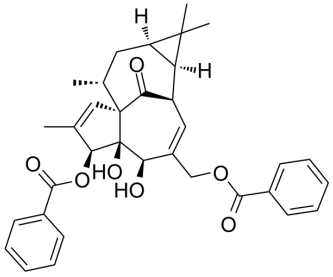
Molecular Weight: 556.65

Target: PKC; Apoptosis

Pathway: Epigenetics; TGF-beta/Smad; Apoptosis

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (179.65 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7965 mL	8.9823 mL	17.9646 mL
	5 mM	0.3593 mL	1.7965 mL	3.5929 mL
	10 mM	0.1796 mL	0.8982 mL	1.7965 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 5 mg/mL (8.98 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ingenol 3,20-dibenzoate is a potent protein kinase C (PKC) isoform-selective agonist. Ingenol 3,20-dibenzoate induces selective translocation of nPKC-delta, -epsilon, and -theta and PKC-mu from the cytosolic fraction to the particulate fraction and induces morphologically typical apoptosis through de novo synthesis of macromolecules. Ingenol 3,20-dibenzoate increases the IFN-γ production and degranulation by NK cells, especially when NK cells are stimulated by NSCLC cells[1][2].

In Vitro

Ingenol 3,20-dibenzoate (0-10000 nM; 4 hours) enhanced NK cells (stimulated by A549 cells and H1299 cells) degranulation[2].

Ingenol 3,20-dibenzoate (0.001-10 μg/ml) dose dependently promoted UT-7/EPO cell proliferation with an EC50 of 0.27 μg/ml (485 nM)[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Ingenol 3,20-dibenzoate (20 μg/mouse; i.p.; on days 3, 7, and 11) lessens the anemia induced by 5-fluorouracil in an in vivo mouse model[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male C57BL/6 mice (8–12 weeks old)[3]
Dosage:	20 μg/mouse
Administration:	I.p.; On days 3, 7, and 11
Result:	Severity of 5-FU–induced anemia was lessened by IDB treatment on days 12 and 20.

REFERENCES

[1]. Asada A, et al. Induction of thymocyte apoptosis by Ca2+-independent protein kinase C (nPKC) activation and its regulation by calcineurin activation. J Biol Chem. 1998;273(43):28392-28398.

[2]. Gong C, et al. Enhancement of NK cell-mediated lysis of non-small lung cancer cells by nPKC activator, ingenol 3,20 dibenzoate. Mol Immunol. 2017;83:23-32.

[3]. Oh JG, et al. Biphasic Effects of Ingenol 3,20-Dibenzoate on the Erythropoietin Receptor: Synergism at Low Doses and Antagonism at High Doses. Mol Pharmacol. 2015;88(2):392-400.

Caution: Product has not been fully validated for medical applications. For research use only.

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