

Product Data Sheet

Product Name: DIM-C-pPhOCH₃

Cat. No.: GC32884

Chemical Properties

Cas. No. 33985-68-1

SMILES COC1=CC=C(C(C2=CNC3=C2C=CC=C3)C4=CNC5=C4C=CC=C5)C=C1

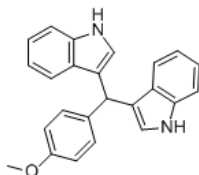
Formula C₂₄H₂₀N₂O M.Wt 352.43

Solubility DMSO : ≥ 33.3 mg/mL (94.49 mM) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

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

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Cell experiment: RKO cells are treated with DMSO or 12.5 μ M DIM-C-pPhOCH₃ 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].

Animal experiment: 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 $\times$ 10⁶ per 150 μ L) 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-pPhOCH₃ for 21 days. The mice are weighed, and tumor size is measured[1].

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.

Background

DIM-C-pPhOCH₃ is a Nur77 agonist. Nerve growth factor-induced B α (NGFI-B α , Nur77) is an orphan nuclear receptor.

DIM-C-pPhOCH₃ 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-pPhOCH₃ also induces Nur77-independent apoptosis. DIM-C-pPhOCH₃ (10 μ M) 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-pPhOCH₃ 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

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also observed after treatment of RKO cells for 48 h with DIM-C-pPhOCH₃[1].

DIM-C-pPhOCH₃ (25 mg/kg/d) also inhibits tumor growth in athymic nude mice bearing RKO cell xenografts. The effects of DIM-C-pPhOCH₃ (25 mg/kg/d) on colon tumor growth are also investigated in athymic nude mice bearing RKO cell xenografts. Treatment with the DIM-C-pPhOCH₃ significantly decreases tumor volumes and final tumor weights compared with corn oil controls[1].

[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.

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