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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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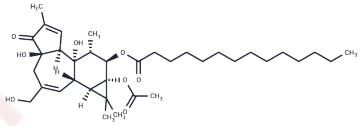
# Data Sheet (Cat.No.TQ0198)

TargetMol

## Phorbol 12-myristate 13-acetate

### Chemical Properties



CAS No. : 16561-29-8

Formula: C36H56O8

Molecular Weight: 616.83

Appearance: no data available

Storage: keep away from direct sunlight,store under nitrogen, store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

### Biological Description

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| Description | Phorbol 12-myristate 13-acetate (PMA), a member of the phorbol ester group of natural products, activates PKC, SphK, and NF-κB, and induces THP1 cell differentiation. |
| Targets(IC50) | NF-κB,S1P Receptor,PKC |
| In vitro | **METHODS**: Sphere-cultured human melanoma cells WM series were treated with Phorbol 12-myristate 13-acetate (50 ng/mL) for 3 days, and cell growth was examined using the MTS. **RESULTS**: Phorbol 12-myristate 13-acetate promoted the proliferation of melanoma cells, and the cell number of WM35 cells increased to 265%. [1] **METHODS**: Human mononuclear leukocytes THP-1 were treated with Phorbol 12-myristate 13-acetate (200 ng/mL) for 1-5 days, and morphology was assessed using light microscopy and target expression was detected using Flow Cytometry. **RESULTS**: Phorbol 12-myristate 13-acetate induced THP-1 cells to differentiate into macrophage-like cells (THP-1 macrophages). Cell surface expression of CD11 and CD14 was increased. [2] **METHODS**: Human venous endothelial cells HUVECs were treated with Phorbol 12-myristate 13-acetate (10-40 ng/mL) for 8 h. Cell migration was detected using the Wound healing migration assay. **RESULTS**: Short-term treatment with Phorbol 12-myristate 13-acetate enhanced endothelial cell migration. [3] |
| In vivo | **METHODS**: To investigate the effects of phorbol esters on rodent brain development, Phorbol 12-myristate 13-acetate (100-500 μg/kg) was administered as a single intraperitoneal injection to neonatal rats and mice deficient in IL-18 or IRAK-4, and the animals were necropsied 24 h, 7 days, or 14 days later. **RESULTS**: Phorbol 12-myristate 13-acetate induced an inflammatory response and extensive neurodegeneration in the brain. Lack of IL-18 or IRAK-4 protected against Phorbol 12-myristate 13-acetate-induced brain damage. [4] **METHODS**: To construct an acute mouse ear inflammation model, both ears of CD-1 mice were treated topically with Phorbol 12-myristate 13-acetate (20 μL of 125 μg/mL PMA acetone solution), air-dried and completely absorbed. **RESULTS**: Ear tissues attacked with Phorbol 12-myristate 13-acetate began to show signs of inflammation, including swelling and redness, approximately 2 hours after application. [5] |
| Cell Research | αT3-1 and LβT-2 cells are grown in monolayer cultured in DMEM in humidified incubator 5% CO2 at 37°C. Serum starvation is with 0.1% FCS in the same medium for 16 h. GnRH and PMA are then added for the length of time as indicated. In general, αT3-1 cells are |

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| | transiently transfected by ExGen 500 or by jetPRIME, while LβT2 cells only by jetPRIME transfection reagent. For experiments with dominant-negative (DN) PKCs, αT3-1 cells (in 6 cm plates) are transfected with 1.5 μg of p38α-GFP with 3 μg of control vector, pCDNA3, or with 3 μg of the DN-PKCs constructs. For LβT2 cells, transfections are performed (in 10 cm plates) with 4 μg of p38α-GFP along with 9 μg of control vector, pCDNA3, or with 9 μg of the DN-PKCs constructs. Approximately 30 h after transfection, the cells are serum-starved (0.1% FCS) for 16 h and later stimulated with GnRH or PMA, washed twice with ice-cold PBS, treated with the lysis buffer, followed by one freeze-thaw cycle. Cells are harvested; following centrifugation (15,000×g, 15 min, 4°C) supernatants are taken for immunoprecipitation experiments [2]. |
| Animal Research | All experiments are performed with male Wistar rats (weighing 250-280 g). One hundred and thirty-five Wistar rats are randomly divided into seven groups. (1) Rats in the sham group (n=21) are given a lateral cerebral ventricle injection of 0.9% normal saline; (2) Rats in the IR group (n=21) are given a lateral cerebral ventricle injection of 0.9% normal saline 30 min before middle cerebral artery occlusion (MCAO); (3) Rats in the Carbenoxolone (CBX) group (n=21) are given a lateral cerebral ventricle injection of CBX (5 μg/mL×10 μL) 30 min before MCAO; (4) Rats in the Sch-6783 group (n=21) are given a lateral cerebral ventricle injection of DZX (2 mM×30 μL) 30 min prior to MCAO; (5) Rats in the 5-HD group (n=21) are given a lateral cerebral ventricle injection of 5-HD (100 mM×10 μL), and after 10 min, DZX is injected 15 min prior to MCAO; (6) The rats in the DZX + Ro group (n=15) are given a lateral cerebral ventricle injection of DZX, and after 10 min, Ro-31-8425 (400 μg/kg) is injected 15 min prior to MCAO; (7) The rats in the 5-HD+PMA group (n=15) are given an intraperitoneal injection of PMA (200 μg/kg) after the injection of 5-HD and DZX [3]. |

## Solubility Information

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| Solubility | DMSO: 60 mg/mL (97.27 mM),<br>H2O: Insoluble,<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 1.6212 mL | 8.106 mL | 16.2119 mL |
| 5 mM | 0.3242 mL | 1.6212 mL | 3.2424 mL |
| 10 mM | 0.1621 mL | 0.8106 mL | 1.6212 mL |
| 50 mM | 0.0324 mL | 0.1621 mL | 0.3242 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.

Reference

Chen H, Duan X, Deng X, et al.EBV-upregulated B7-H3 inhibits NK cell-mediated antitumor function and contributes to nasopharyngeal carcinoma progression.Cancer Immunology Research.2023: CIR-22-0374.

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