Product Name: 12-O-tetradecanoyl phorbol-13-acetate

Revision Date: 6/30/2016

Product Data Sheet

Chemical Properties

Product Name: 12-O-tetradecanoyl phorbol-13-acetate

Cas No.: 16561-29-8

M.Wt: 616

Formula: C36H56O8

Chemical Name:

Canonical SMILES: CCCCCCCCCCCCCC(=O)OC1C(C=C(CC3(C2C=C(C3=O)C)O)CO)C4C1(C4(C)OC(=O)C)OC

Solubility: Soluble in DMSO > 10 mM

Storage:

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.

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

Biological Activity

Targets: Nature Products

Pathways:

Description:
12-O-tetradecanoyl phorbol-13-acetate (TPA) is an activator of ERK/MAPK with the concentration of 50μm [1].
ERK is an extracellular signal-regulated kinase and transfers signals from a receptor on the cell
surface to DNA cooperated with MAPK. It is reported that ERK deficiency leads to the cell uncontrolled growth and is regarded as a target to cure cancers. TPA is a potent ERK activator. When tested with A549 cells (human lung cancer cell line), TPA treatment led to an early, strong, and relatively transient ERK phosphorylation [2]. In mouse embryo fibroblasts from DUSP5 (+/+) mice, administration of TPA increased levels of ERK expression [3]. In transgenic (Eisuke) mice expressing a F?rster resonance energy transfer (FRET) biosensor for ERK, ERK activity was gradually stimulated upon topical TPA treatment and reached the peak approximately 6 hr later [1]. It is also reported that TPA treatment increased the accumulation of immature myeloid cells and the formation of papillomas during epidermal carcinogenesis (important in the tumor formation) when tested with S100A9 transgenic mice [4].

Reference:

Protocol

Cell experiment:

Cell lines B-lymphocyte cell line
Preparation method The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions
Applications 12-O-tetradecanoyl phorbol-13-acetate was used for the activation of PKC (protein kinase C) in cells.

Animal experiment [3]:

Animal models Chemical skin carcinogenesis mice
Dosage form
Twice weekly treatment (12.5 μg in 100 μL acetone)

Other notes
Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.