For Research Use Only

Phorbol 12-myristate 13-acetate

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Catalog Number: CM00437

产品信息

Catalog Number:
CM00437

CAS号:
16561-29-8

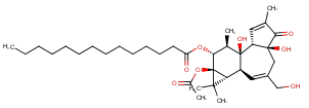
分子式:
$C_{36}H_{56}O_8$

主要靶点:
S1P Receptor|NF-κB|PKC

主要通路:
表观遗传|细胞骨架|G蛋白偶联受体|NF-κB信号通路

分子量:
616.83

溶解度:
DMSO:50 mg/mL (81.06 mM),H2O:Insoluble



靶点活性

PKC:11.7 nM (EC50)

体外活性

p38MAPK phosphorylation by PMA (100 nM) is observed in the two cell types similar to that observed by GnRH in αT3-1 cells, that is, a slow sustained activation (3.2-fold and 3.6-fold, respectively at 30 min). The paradoxical findings that PKCs activated by GnRH and PMA play a differential role in p38MAPK phosphorylation may be explained by differential localization of the PKCs [2].

体内活性

PMA reverses the damage induced by 5-hydroxydecanoic acid (5-HD). Thus, activation of the mitoKATP protected mitochondrial function in SOD and MDA via the PKC pathway [3].

动物实验

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].

细胞实验

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 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].

描述

Phorbol 12-myristate 13-acetate (PMA) is a dual SphK and PKC activator.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years