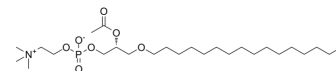


C16-PAF

Cat. No.:	HY-108635
CAS No.:	74389-68-7
Molecular Formula:	C ₂₆ H ₅₄ NO ₇ P
Molecular Weight:	523.68
Target:	Endogenous Metabolite; p38 MAPK; MEK; ERK
Pathway:	Metabolic Enzyme/Protease; MAPK/ERK Pathway; Stem Cell/Wnt
Storage:	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (95.48 mM; ultrasonic and warming and heat to 60°C)					
	H ₂ O : 33.33 mg/mL (63.65 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		1.9096 mL	9.5478 mL	19.0956 mL
5 mM			0.3819 mL	1.9096 mL	3.8191 mL	
	10 mM		0.1910 mL	0.9548 mL	1.9096 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (4.77 mM); Suspended solution; Need ultrasonic					
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (4.77 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	C16-PAF (PAF (C16)), a phospholipid mediator, is a platelet-activating factor and ligand for PAF G-protein-coupled receptor (PAFR). C16-PAF exhibits anti-apoptotic effect and inhibits caspase-dependent death by activating the PAFR. C16-PAF is a potent MAPK and MEK/ERK activator. C16-PAF induces increased vascular permeability ^{[1][2][3][4][5]} .		
IC₅₀ & Target	Human Endogenous Metabolite	ERK	MEK
In Vitro	C16-PAF (PAF (C16); 0.5-1.5 μM; for 24 hours) elicits significant concentration-dependent neuronal loss in PAFR ^{2/2} but not PAFR ^{+/+} cultures. C16-PAF (1 μM) elicits neuronal death in PAFR ^{2/2} cells infected with EGFP alone ^[1] . ?C16-PAF (1 μM; for 24 hours) activates caspase 7 but not caspase 3 in PAFR ^{2/2} neurons ^[1] .		

?C16-PAF is synthesized by two distinct pathways; the remodeling pathway and the de novo synthesis pathway. C16-PAF acts by binding to a unique G-protein-coupled seven transmembrane receptor^[2][3].

?C16-PAF (1-25 µg/ml; 6, 12, 24 h) inhibits *M. smegmatis* and *M. bovis* BCG growth in a time-dependent manner^[3].

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

Cell Viability Assay^[1]

Cell Line:	Cerebellar granule neurons (CGNs) from PAFR ^{-/-} and PAFR ^{+/+} mice
Concentration:	0.5-1.5 µM
Incubation Time:	24 hours
Result:	Elicited significant concentration-dependent neuronal loss in PAFR ^{-/-} but not PAFR ^{+/+} cultures in serum-free media.

Western Blot Analysis^[1]

Cell Line:	CGNs
Concentration:	1 µM
Incubation Time:	24 hours
Result:	Activated caspase 7 but not caspase 3 in PAFR ^{-/-} neurons.

CUSTOMER VALIDATION

- Phytomedicine. 2023 Nov 11, 155208.
- J Transl Med. 2023 Aug 7;21(1):532.
- Front Immunol. 2021 Mar 29;12:630380.
- Apoptosis. 2023 Oct 17.
- Cell Mol Gastroenterol Hepatol. 2022 Oct 21;S2352-345X(22)00222-3.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Scott D Ryan, et al. Heterogeneity in the sn-1 carbon chain of platelet-activating factor glycerophospholipids determines pro- or anti-apoptotic signaling in primary neurons. *J Lipid Res.* 2008 Oct;49(10):2250-8.

[2]. Z Honda, et al. Transfected platelet-activating factor receptor activates mitogen-activated protein (MAP) kinase and MAP kinase kinase in Chinese hamster ovary cells. *J Biol Chem.* 1994 Jan 21;269(3):2307-15.

[3]. Muhammad S Riaz, et al. Direct Growth Inhibitory Effect of Platelet Activating Factor C-16 and Its Structural Analogs on Mycobacteria. *Front Microbiol.* 2018 Sep 11;9:1903.

[4]. Jing Chu, et al. IGHG1 Regulates Prostate Cancer Growth via the MEK/ERK/c-Myc Pathway. *Biomed Res Int.* 2019 Jul 4;2019:7201562.

[5]. Nina Bögershausen, et al. RAP1-mediated MEK/ERK pathway defects in Kabuki syndrome. *J Clin Invest.* 2015 Sep;125(9):3585-99.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA