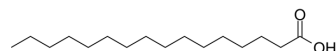


Palmitic acid

Cat. No.:	HY-N0830		
CAS No.:	57-10-3		
Molecular Formula:	C ₁₆ H ₃₂ O ₂		
Molecular Weight:	256.42		
Target:	Endogenous Metabolite; HSP		
Pathway:	Metabolic Enzyme/Protease; Cell Cycle/DNA Damage		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro	Ethanol : 12.82 mg/mL (50.00 mM; Need ultrasonic)					
		Solvent Concentration	Mass			
	Preparing Stock Solutions			1 mg	5 mg	10 mg
		1 mM		3.8999 mL	19.4993 mL	38.9985 mL
5 mM			0.7800 mL	3.8999 mL	7.7997 mL	
	10 mM		0.3900 mL	1.9499 mL	3.8999 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 15% Cremophor EL >> 85% Saline Solubility: 10 mg/mL (39.00 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 2.5 mg/mL (9.75 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% EtOH >> 90% corn oil Solubility: ≥ 2.5 mg/mL (9.75 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Palmitic acid is a long-chain saturated fatty acid commonly found in both animals and plants. PA can induce the expression of glucose-regulated protein 78 (GRP78) and CCAAT/enhancer binding protein homologous protein (CHOP) in in mouse granulosa cells. Palmitic acid is used to establish a cell steatosis model ^{[1][2]} .	
IC₅₀ & Target	Microbial Metabolite	Human Endogenous Metabolite
In Vitro	Palmitic acid (0.1, 0.25 or 0.5 mM; 12-72 h) increases the mRNA levels of Notch1, -2 and -4 in LX2, Huh7 and MIHA hepatic cell	

lines^[2].

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

CUSTOMER VALIDATION

- Cell Discov. 2023 Mar 7;9(1):26.
- Bioact Mater. 2024 Mar, 33, 85-99.
- Adv Sci (Weinh). 2023 Oct;10(28):e2302130.
- Gut Microbes. 2022, 14(1): 2139978.
- Cardiovasc Diabetol. 2023 May 6;22(1):107.

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- [2]. Liaqat H, et al. Antioxidant Effect of Wheat Germ Extracts and Their Antilipidemic Effect in Palmitic Acid-Induced Steatosis in HepG2 and 3T3-L1 Cells. Foods. 2021 May 12;10(5):1061.
- [3]. Jiang H, et al. Palmitic acid promotes endothelial progenitor cells apoptosis via p38 and JNK mitogen-activated protein kinase pathways. Atherosclerosis. 2010 May;210(1):71-7.
- [4]. Ding WJ, et al. Expression of Notch family is altered in non alcoholic fatty liver disease. Mol Med Rep. 2020 Sep;22(3):1702-1708.
- [5]. Urso CJ, et al. Palmitic Acid Lipotoxicity in Microglia Cells Is Ameliorated by Unsaturated Fatty Acids. Int J Mol Sci. 2021 Aug 23;22(16):9093.
- [6]. Wu D, et al. Palmitic acid exerts pro-inflammatory effects on vascular smooth muscle cells by inducing the expression of C-reactive protein, inducible nitric oxide synthase and tumor necrosis factor- α . Int J Mol Med. 2014 Dec;34(6):1706-12.
- [7]. Harada H, et al. Antitumor activity of palmitic acid found as a selective cytotoxic substance in a marine red alga. Anticancer Res. 2002 Sep-Oct;22(5):2587-90.
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Caution: Product has not been fully validated for medical applications. For research use only.

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