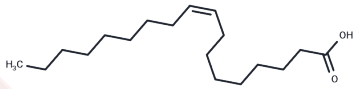
Data Sheet (Cat.No.T2O2668)

TargetMol

Oleic acid

Chemical Properties



CAS No. : 112-80-1

Formula: C18H34O2

Molecular Weight: 282.46

Storage: Store at low temperature
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Oleic acid (Glycon Wo) is a natural product, a common monounsaturated fatty acid found in a variety of animal and vegetable fats and oils. Palmitic acid is a Na+/K+ ATPase activator.
Targets(IC50)	Apoptosis,ATPase,Endogenous Metabolite
In vitro	**METHODS**: Human tumor cells HCG-27, AGS, MDA-MB-231, SGC7901, BGC823 and MCF-7 were treated with Oleic acid (400 μM) for 24-72 h. Cell viability was detected using MTT. **RESULTS**: Oleic acid stimulated cell viability in HGC-27, MDA-MB-231 cells, and inhibited cell viability in AGS, SGC7901, BGC823 and MCF-7 cells. [1] **METHODS**: Renal cell carcinoma cells 786-O were treated with Oleic acid (0.05-0.2 mM/L) for 48 h. Apoptosis was detected by Flow Cytometry. **RESULTS**: Oleic acid retarded apoptosis of 786-O cells in a concentration-dependent manner. [2]
In vivo	**METHODS**: To detect the antitumor activity in vivo, Oleic acid (10 mg/kg) was administered by gavage to LKB1fl/flp53fl/fl endometrial tumor mouse model five days per week for four weeks. **RESULTS**: Oleic acid treatment for four weeks significantly inhibited tumor growth by 52.1%.Oleic acid exhibits anti-tumor activity in endometrial cancers, which is dependent on the PTEN/AKT/mTOR signaling pathway. [3] **METHODS**: To study its role in ischemic injury, Oleic acid (10-30 mg/kg, 5% Tween 20 in sterile saline) was administered intraperitoneally to rodent models of middle cerebral artery occlusion (MCAO), photochromic and four-vessel occlusion (4-VO). **RESULTS**: Oleic acid administration reduced MCAO-induced infarct volume and functional deficits, photochromic-induced infarct volume, and 4-VO-induced hippocampal neuronal death. [4]

Solubility Information

Solubility	DMSO: 250 mg/mL (885.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	5% DMSO+95% Saline: 3 mg/mL (10.62 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5403 mL	17.7016 mL	35.4032 mL
5 mM	0.7081 mL	3.5403 mL	7.0806 mL
10 mM	0.354 mL	1.7702 mL	3.5403 mL
50 mM	0.0708 mL	0.354 mL	0.7081 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Li S, et al. High metastaticgastric and breast cancer cells consume oleic acid in an AMPK dependent manner. PLoS One. 2014 May 13;9(5):e97330.

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Liu Z, et al. Effects of oleic acid on cell proliferation through an integrin-linked kinase signaling pathway in 786-O renal cell carcinoma cells. Oncol Lett. 2013 Apr;5(4):1395-1399.

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Piezo1 regulates colon stem cells to maintain epithelial homeostasis through SCD1-Wnt-β-catenin and programming fatty acid metabolism