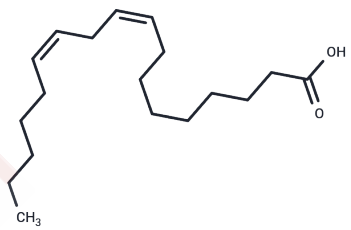
Data Sheet (Cat.No.T4P2931)

TargetMol

Linoleic acid

Chemical Properties



CAS No. : 60-33-3

Formula: C18H32O2

Molecular Weight: 280.45

Storage: Keep away from direct sunlight
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	Linoleic acid (9,12-octadecadienoic acid) is a naturally occurring polyunsaturated fatty acid found in animal and vegetable oils. Linoleic acid is an essential fatty acid that is part of membrane phospholipids.
Targets(IC50)	Endogenous Metabolite
In vitro	**METHODS**: Bovine satellite cell BSCs were treated with Linoleic acid (10-250 μM) for 24-48 h. Cell viability was measured by MTT assay. **RESULTS**: At 24 h of treatment with Linoleic acid, cell proliferation increased at doses of 10-100 μM and decreased at 250 μM as compared to untreated control. 100 μM Linoleic acid at 48 h had no significant effect on cell proliferation. [1] **METHODS**: Human ovarian cancer cells SKOV-3 were treated with Linoleic acid (16 μM) for 24 h. Cell migration was detected by wound-healing assay. **RESULTS**: The average migration in the Linoleic acid treated group increased by about 20% on average compared to control untreated cells. [2]
In vivo	**METHODS**: To study the effects on endocannabinoid (EC) biology, four groups of C57BL/6 mice were fed diets containing 1% or 8% Linoleic acid (with or without G (LAG)) for eight weeks. **RESULTS**: Increasing dietary Linoleic acid from 1% to 8% significantly increased circulatory, small intestinal, and hepatic ECS. 1% LAG-fed mice had the lowest feed efficiencies, and hepatic levels of only two ECs were reduced by the addition of G. [3]

Solubility Information

Solubility	DMSO: 55 mg/mL (196.11 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4.33 mg/mL (15.44 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	3.5657 mL	17.8285 mL	35.657 mL
5 mM	0.7131 mL	3.5657 mL	7.1314 mL
10 mM	0.3566 mL	1.7828 mL	3.5657 mL
50 mM	0.0713 mL	0.3566 mL	0.7131 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

Belal SA, et al. Modulatory effect of linoleic and oleic acid on cell proliferation and lipid metabolism gene expressions in primary bovine satellite cells. Anim Cells Syst (Seoul). 2018 Sep 9;22(5):324-333.
Hwang Y H, Song H K, Lee A, et al. Laminaria japonica Suppresses the Atopic Dermatitis-Like Responses in NC/Nga Mice and Inflamed HaCaT Keratinocytes via the Downregulation of STAT1. Nutrients. 2020, 12(11): 3238
Lee S J, Yang H, Kim S C, et al.Ethanol Extract of Radix Asteris Suppresses Osteoclast Differentiation and Alleviates Osteoporosis.International Journal of Molecular Sciences.2023, 24(22): 16526.
Masner M, et al. Linoleic and oleic acids enhance cell migration by altering the dynamics of microtubules and the remodeling of the actin cytoskeleton at the leading edge. Sci Rep. 2021 Jul 22;11(1):14984.
Ghosh S, et al. Linoleic acid in diets of mice increases total endocannabinoid levels in bowel and liver: modification by dietary glucose. Obes Sci Pract. 2019 Jul 16;5(4):383-394.