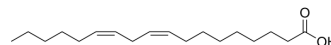


Linoleic acid

Cat. No.:	HY-N0729
CAS No.:	60-33-3
Molecular Formula:	C ₁₈ H ₃₂ O ₂
Molecular Weight:	280.45
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (356.57 mM; Need ultrasonic)
0.1 M NaOH : 8.33 mg/mL (29.70 mM; ultrasonic and warming and adjust pH to 11 with NaOH and heat to 60°C)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.5657 mL	17.8285 mL	35.6570 mL
	5 mM	0.7131 mL	3.5657 mL	7.1314 mL
	10 mM	0.3566 mL	1.7828 mL	3.5657 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 50% PEG300 >> 50% saline
Solubility: 40 mg/mL (142.63 mM); Suspended solution; Need ultrasonic and warming and heat to 40°C
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.17 mg/mL (7.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.17 mg/mL (7.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.17 mg/mL (7.74 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Linoleic acid is a common polyunsaturated (PUFA) found in plant-based oils, nuts and seeds. Linoleic acid is a part of membrane phospholipids, and functions as a structural component to maintain a certain level of membrane fluidity of the transdermal water barrier of the epidermis. Linoleic acid induces red blood cells and hemoglobin damage via oxidative mechanism ^{[1][2]}.

In Vitro

Linoleic acid contains unsaturated double bonds that are highly vulnerable to free radical attack and oxidation. If ROS are produced in great quantities, the body can no longer efficiently remove them. In such instances, ROS may be released into the extracellular space, causing damage to surrounding cells and tissues. Linoleic acid is a decomposition product of a free fatty acid and has been linked to erythrocyte damage^[1].

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

CUSTOMER VALIDATION

- Gut Microbes. 2022, 14(1): 2139978.
- Gut Microbes. Jan-Dec 2022;14(1):2003176.
- Redox Biol. 2023 Aug 18;66:102857.
- Cell Rep. 2022 Sep 20;40(12):111381.
- iScience. 2023 S2589-0042(23)00628-4.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Jay Whelan. Linoleic Acid. Adv Nutr. 2013 May; 4(3): 311–312.

[2]. Yuan T, et al. Linoleic acid induces red blood cells and hemoglobin damage via oxidative mechanism. Int J Clin Exp Pathol. 2015 May 1;8(5):5044-52.

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