# Triolein

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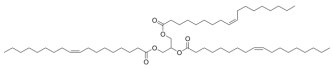
|---|---|
| **Cat. No.:** | HY-N1981 |
| **CAS No.:** | 122-32-7 |
| **Molecular Formula:** | $C_{57}H_{104}O_6$ |
| **Molecular Weight:** | 885.43 |
| **Target:** | MMP; Endogenous Metabolite |
| **Pathway:** | Metabolic Enzyme/Protease |
| **Storage:** | -20°C, protect from light, stored under nitrogen<br>* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen) |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (112.94 mM; Need ultrasonic)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 1.1294 mL | 5.6470 mL | 11.2939 mL |
| | 5 mM | 0.2259 mL | 1.1294 mL | 2.2588 mL |
| | 10 mM | 0.1129 mL | 0.5647 mL | 1.1294 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (2.35 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (2.35 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (2.35 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Triolein is a symmetric triacylglycerol that reduces upregulation of MMP-1 and has strong antioxidant and anti-inflammatory activities[1][2].

**$IC_{50}$ & Target**

Human Endogenous Metabolite

**In Vitro**

Triolein (20 μM, 48 h) decreases the upregulation of MMP-1 in dermal fibroblasts produced by ROS[1].
Triolein (10 μM, 24 h) can improve the oxidative stress induced by oxidative low-density lipoprotein in endothelial cells[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| RT-PCR[1] | |
|---|---|
| Cell Line: | Tel⊠E6E7 |
| Concentration: | 20 μM |
| Incubation Time: | 48 h |
| Result: | Reduced the IL-6 expression and ROS generation. |

## REFERENCES


[1]. Luo T, et al. Triolein and trilinolein ameliorate oxidized low-density lipoprotein-induced oxidative stress in endothelial cells. Lipids. 2014 May;49(5):495-504.

[2]. Leirós GJ, et al. Triolein reduces MMP-1 upregulation in dermal fibroblasts generated by ROS production in UVB-irradiated keratinocytes. J Dermatol Sci. 2017 Feb;85(2):124-130.





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