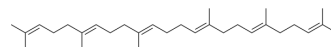


## Squalene

|                           |   |       |          |
|---------------------------|---|-------|----------|
| <b>Cat. No.:</b>          | HY-N1214  |       |          |
| <b>CAS No.:</b>           | 111-02-4  |       |          |
| <b>Molecular Formula:</b> | C <sub>30</sub> H <sub>50</sub>   |       |          |
| <b>Molecular Weight:</b>  | 410.72  |       |          |
| <b>Target:</b>            | Endogenous Metabolite; Reactive Oxygen Species; Fungal                    |       |          |
| <b>Pathway:</b>           | Metabolic Enzyme/Protease; Immunology/Inflammation; NF-κB; Anti-infection |       |          |
| <b>Storage:</b>           | Pure form   | -20°C | 3 years  |
|                           |   | 4°C   | 2 years  |
|                           | In solvent  | -80°C | 6 months |
|                           |   | -20°C | 1 month  |



### SOLVENT & SOLUBILITY

|   |  |                          |            |            |
|---|--|--------------------------|------------|------------|
| <b>In Vitro</b>   | DMSO : 16.67 mg/mL (40.59 mM; Need ultrasonic)   |                          |            |            |
|   |  | Solvent<br>Concentration | Mass       |            |
|   |  |                          | 1 mg       | 5 mg       |
|   |  |                          | 10 mg      |            |
| <b>Preparing Stock Solutions</b>  | <b>1 mM</b>  | 2.4347 mL                | 12.1737 mL | 24.3475 mL |
|   | <b>5 mM</b>  | 0.4869 mL                | 2.4347 mL  | 4.8695 mL  |
|   | <b>10 mM</b>   | 0.2435 mL                | 1.2174 mL  | 2.4347 mL  |
| Please refer to the solubility information to select the appropriate solvent. |  |                          |            |            |
| <b>In Vivo</b>  | <ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline<br/>Solubility: ≥ 1.67 mg/mL (4.07 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline)<br/>Solubility: 1.67 mg/mL (4.07 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil<br/>Solubility: ≥ 1.67 mg/mL (4.07 mM); Clear solution</li> </ol> |                          |            |            |

### BIOLOGICAL ACTIVITY

|                                     |   |                             |
|-------------------------------------|---|-----------------------------|
| <b>Description</b>                  | Squalene (Super Squalene) is an intermediate product in the synthesis of cholesterol, and shows several pharmacological properties such as hypolipidemic, hepatoprotective, antiatherosclerotic, cardioprotective, antioxidant, and antitumour activity <sup>[1][2]</sup> . |                             |
| <b>IC<sub>50</sub> &amp; Target</b> | Microbial Metabolite  | Human Endogenous Metabolite |
| <b>In Vitro</b>                     | Squalene (12.5, 50 and 200 μM; 24 h) effects on MCF10A epithelial cells in a dose-dependent manner: (a) it decreases  |                             |

intracellular ROS level, (b) it prevents H2O2-induced oxidative injury, and (c) it protects against oxidative DNA damage<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Squalene (0.25-1 g/kg; fed chow; diets for 11 weeks) promotes changes in HDL- cholesterol and paraoxonase 1 and decreases reactive oxygen species in lipoproteins and plasma malondialdehyde levels<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

|                 |  |
|-----------------|--|
| Animal Model:   | Male mouse models (wild-type, Apoa1- and Apoe- deficient) <sup>[3]</sup>                                 |
| Dosage:         | 0.25 g/kg, 1 g/kg  |
| Administration: | Fed chow; diets for 11 weeks   |
| Result:         | Increased high density lipoprotein-cholesterol and paraoxonase 1 and decreases oxidative stress in mice. |

## REFERENCES

[1]. Fernando Warleta, et al. Squalene protects against oxidative DNA damage in MCF10A human mammary epithelial cells but not in MCF7 and MDA-MB-231 human breast cancer cells. *Food Chem Toxicol.* 2010 Apr;48(4):1092-100.

[2]. Clara Gabás-Rivera, et al. Dietary squalene increases high density lipoprotein-cholesterol and paraoxonase 1 and decreases oxidative stress in mice. *PLoS One.* 2014 Aug 12;9(8):e104224.

[3]. Muzalevskaya EN, et al. SQUALENE: PHYSIOLOGICAL AND PHARMACOLOGICAL PROPERTIES. *Eksp Klin Farmakol.* 2015;78(6):30-6.

**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