

Methyl alpha-eleostearate

Chemical Properties

CAS No. :	4175-47-7
Formula:	C19H32O2
Molecular Weight:	292.46
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Methyl alpha-eleostearate is a conjugated polyunsaturated fatty acid commonly found in plant seed oils that exhibits antitumor activity.
Targets(IC50)	Others
In vitro	<p>Methods: Human colorectal cancer Caco-2 cells were seeded at 2×10^3 cells per well and cultured for 24 hours. Purified Methyl alpha-eleostearate was added and the cells were treated for 24 hours; cell viability was then assessed using the WST-1 assay.</p> <p>Results: Methyl alpha-eleostearate inhibited Caco-2 cell proliferation in a dose-dependent manner; at 12.5 μM, cell survival was only 19%. [1]</p> <p>Methods: Following treatment with Methyl alpha-eleostearate, the levels of DNA fragmentation—a hallmark of apoptosis—were detected in Caco-2 cells using an ELISA assay.</p> <p>Results: Methyl alpha-eleostearate significantly induced apoptosis in Caco-2 cells, resulting in characteristic DNA fragmentation. [1]</p> <p>Methods: DLD-1 cells were treated with 0-20 μM Methyl alpha-eleostearate or 20 μM linoleic acid/CLA for 12 hours. Phospholipid hydroperoxides (PCOOH, PEOOH) were measured by CL-HPLC, and lipid peroxidation products were determined using the TBARS method.</p> <p>Results: Methyl alpha-eleostearate caused a dose-dependent increase in PCOOH, PEOOH, and TBARS levels.[2]</p>
In vivo	<p>Methods: Nude mice were subcutaneously inoculated with DLD-1 cells and randomly divided into a control group and a tung oil fatty acid group (rich in Methyl alpha-eleostearate). The experimental oil (50 mg) was administered orally every 2 days for 32 days, and tumor weight, body weight, and liver weight were recorded.</p> <p>Results: Tumor weight in the tung oil (Methyl alpha-eleostearate) group decreased by approximately 70%; there were no significant differences in body weight or liver weight among the mice, indicating good in vivo safety. [2]</p>

Solubility Information

Solubility	<p>DMSO: 24 mg/mL (82.06 mM),Sonication is recommended.</p> <p>Ethanol: 100 mg/mL (341.93 mM),Sonication is recommended.</p> <p>DMF: 24 mg/mL (82.06 mM),Sonication is recommended.</p>
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A DRUG SCREENING EXPERT

Solubility	(< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4193 mL	17.0964 mL	34.1927 mL
5 mM	0.6839 mL	3.4193 mL	6.8385 mL
10 mM	0.3419 mL	1.7096 mL	3.4193 mL
50 mM	0.0684 mL	0.3419 mL	0.6839 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

Yasui Y, et al. Bitter gourd seed fatty acid rich in 9c,11t,13t-conjugated linolenic acid induces apoptosis and up-regulates the GADD45, p53 and PPARgamma in human colon cancer Caco-2 cells. Prostaglandins Leukot Essent Fatty Acids. 2005;73(2):113-119.

Tsuzuki T, et al. Tumor growth suppression by alpha-eleostearic acid, a linolenic acid isomer with a conjugated triene system, via lipid peroxidation. Carcinogenesis. 2004;25(8):1417-1425.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481