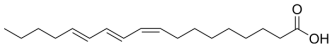
α-Eleostearic acid

Cat. No.: HY-27787
CAS No.: 506-23-0
Molecular Formula: $C_{18}H_{30}O_2$
Molecular Weight: 278.43
Target: Apoptosis; Ferroptosis
Pathway: Apoptosis
Storage: -80°C



SOLVENT & SOLUBILITY

In Vitro

DMSO : 30 mg/mL (107.75 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5916 mL	17.9578 mL	35.9157 mL
	5 mM	0.7183 mL	3.5916 mL	7.1831 mL
	10 mM	0.3592 mL	1.7958 mL	3.5916 mL

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

BIOLOGICAL ACTIVITY

Description

α-Eleostearic acid (cis-Eleostearic acid), a conjugated linolenic acid, is an apoptosis inducer. α-Eleostearic acid is also a ferroptosis inducer. α-Eleostearic acid exhibits antioxidant and antitumor activity[1][2][3].

In Vitro

α-Eleostearic acid (0-40 μM; 24 h) inhibits the growth of some cancer and fibroblast cell lines, including those of HL60 leukemia and HT29 colon carcinoma[1].
α-Eleostearic acid (20 μM; 6 h) induced cellular and nuclear fragmentation, and nucleosomal DNA fragmentation typical of apoptosis in HL60 leukemia cells[1].
α-Eleostearic acid (0.01-100 μM; 72 h) triggers death of MDA-MB-231 cells and this death was suppressed by Fer-1, Deferoxamine, and vitamin E[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

α-Eleostearic acid (0.5% of total lipid given; p.o.) inhibits Sodium Arsenite-induced oxidative stress, including reversal of antioxidant enzyme activity and reduction of lipid peroxidation levels[2].
Oral administration of tung oil, naturally rich inα-Eleostearic acid, to mice limits tumor growth and metastasis in an aggressive TNBC orthotopic xenograft model[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kobori M, et, al. Alpha-eleostearic acid and its dihydroxy derivative are major apoptosis-inducing components of bitter gourd. J Agric Food Chem. 2008 Nov 26;56(22):10515-20.

[2]. Saha SS, et, al. Comparative study of antioxidant activity of alpha-eleostearic acid and punicic acid against oxidative stress generated by sodium arsenite. Food Chem Toxicol. 2009 Oct;47(10):2551-6.

[3]. Beatty A, et, al. Ferroptotic cell death triggered by conjugated linolenic acids is mediated by ACSL1. Nat Commun. 2021 Apr 14;12(1):2244.

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