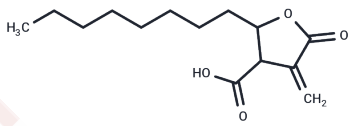
Data Sheet (Cat.No.T10657)

TargetMol

C75

Chemical Properties



CAS No. : 218137-86-1

Formula: C14H22O4

Molecular Weight: 254.32

Appearance: no data available

Storage: store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	C75 is an inhibitor synthetic fatty-acid synthase (FASN) and inhibits prostate cancer cells PC3 (IC50: 35 μM).C75 increases CPT1 activity and reduces DIO.
Targets(IC50)	Fatty Acid Synthase
In vitro	C75 (10-50 μM) reduces the growth of LNCaP spheroids in a concentration-dependent manner (IC50: 50 μM). (-)-C75 inhibits FAS activity and has a cytotoxic effect on tumor cell lines, without affecting food consumption. (+)-C75 inhibits CPT1 and produces anorexia. The differential activity of C75 enantiomers may lead to the development of potential new specific drugs for cancer and obesity [2].
In vivo	C75 (i.p.) blocks fasting-induced c-Fos expression in the arcuate nucleus, lateral hypothalamic area, and paraventricular nucleus. C75 (30 mg/kg, i.p.) inhibits the food intake of mice by ≥95% within 2 h[3]. C75-treated DIO mice have a 50% greater weight loss, and a 32.9% increased production of energy because of fatty acid oxidation. C75 treatment of rodent adipocytes and hepatocytes and human breast cancer cells increases fatty acid oxidation and ATP levels by increasing CPT-1 activity, even in the presence of elevated concentrations of malonyl-CoA [4].

Solubility Information

Solubility	DMSO: 75.6 mg/mL (297.26 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9321 mL	19.6603 mL	39.3205 mL
5 mM	0.7864 mL	3.9321 mL	7.8641 mL
10 mM	0.3932 mL	1.966 mL	3.9321 mL
50 mM	0.0786 mL	0.3932 mL	0.7864 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.

Reference

Rae C, et al. Inhibition of Fatty Acid Synthase Sensitizes Prostate Cancer Cells to Radiotherapy. Radiat Res. 2015 Nov;184(5):482-93.
Xiong Q, Sun H, Wang Y, et al.Lipid droplet accumulation in Wdr45-deficient cells caused by impairment of chaperone-mediated autophagic degradation of Fasn.Lipids in Health and Disease.2024, 23(1): 91.
Makowski K, et al. Differential pharmacologic properties of the two C75 enantiomers: (+)-C75 is a strong anorectic drug; (-)-C75 has antitumor activity. Chirality. 2013 May;25(5):281-7.
Gao S, et al. Effect of the anorectic fatty acid synthase inhibitor C75 on neuronal activity in the hypothalamus and brainstem. Proc Natl Acad Sci U S A. 2003 May 13;100(10):5628-33.
Thupari JN, et al. C75 increases peripheral energy utilization and fatty acid oxidation in diet-induced obesity. Proc Natl Acad Sci U S A. 2002 Jul 9;99(14):9498-502.