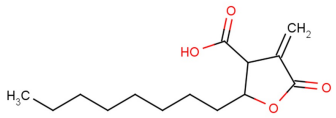
Data Sheet (Cat.No.T10657)

TargetMol
A DRUG SCREENING EXPERT

C75

Chemical Properties



CAS No.:	218137-86-1
Formula:	C14H22O4
Molecular Weight:	254.32
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	C75 is an inhibitor synthetic fatty-acid synthase (FASN) and inhibits prostate cancer cells PC3 (IC50: 35 μM).
Targets(IC_{50})	PC3 cell: 35 μM
In vitro	C75 (10-50 μM) reduces the growth of LNCaP spheroids in a concentration-dependent manner (IC50: 50 μM) [1]. (-)-C75 inhibits FAS activity and has a cytotoxic effect on tumor cell lines, without affecting food consumption. (+)-C75 inhibits CPT1 and its administration 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 blocks fasting-induced c-Fos expression in the arcuate nucleus (Arc), lateral hypothalamic area (LHA), and paraventricular nucleus (PVN) 10–24 h after i.p. injection. Intraperitoneal administration of C75 (30 mg/kg, i.p.) inhibits food intake of mice by ≥95% within 2 h after [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: 83.3 mg/mL (327.54 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.932 mL	19.66 mL	39.321 mL
5 mM	0.786 mL	3.932 mL	7.864 mL
10 mM	0.393 mL	1.966 mL	3.932 mL
50 mM	0.079 mL	0.393 mL	0.786 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Rae C, et al. Inhibition of Fatty Acid Synthase Sensitizes Prostate Cancer Cells to Radiotherapy.
2. 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.
3. 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.
4. 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.

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