Product Name: C 75

Revision Date: 6/30/2016

Product Data Sheet

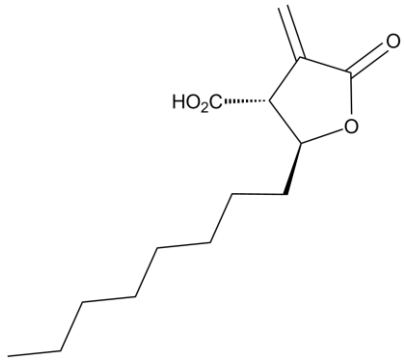
Chemical Properties

Product Name: C 75

Cas No.: 191282-48-1

M.Wt: 254.32

Formula: C14H22O4



Chemical Name: 4-methylidene-2-octyl-5-oxooxolane-3-carboxylic acid

Canonical SMILES: CCCCCCCCC1C(C(=C)C(=O)O1)C(=O)O

Solubility: Soluble in DMSO > 10 mM

Storage: Store at 4°C

General tips: For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20° C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

Biological Activity

Targets : Apoptosis

Pathways: Apoptosis Inducers

Description:

C 75 is an inhibitor of fatty acid synthase [1].
Fatty acid synthase (FAS) is a multi-enzyme protein that catalyzes fatty acid synthesis. Its main function is to catalyze the synthesis of palmitate from acetyl-CoA and malonyl-CoA. FAS is a target for anticancer drug [1].
In human breast cancer cells, C 75 reacted preferentially with FAS and inhibited FAS. The antitumor activity of C 75 is likely mediated by its inhibition of FAS [1]. In primary cortical

neurons, C 75 inhibited FAS activity and increased the activity of carnitine palmitoyltransferase-1 (CPT-1) and fatty acid oxidation, which suggested that C 75 might influence cellular energy balance through regulation of these metabolic pathways. Also, C 75 altered neuronal ATP levels in a biphasic manner (decreasing initially, followed by a prolonged increase above control levels). The AMP-activated protein kinase (AMPK) activity was also influenced by C 75 [2]. In human melanoma A-375 cells, C 75 inhibited cell growth through activation of caspase-dependent apoptosis [3].
In diet induced obese (DIO) mice, chronic C 75 treatment reduced food intake and increased energy expenditure due to increased fatty acid oxidation. C 75 significantly reduced adipose tissue. The reduced food intake was accompanied by an increase in amphetamine and cocaine-related transcript expression [4].

***Reference**:*

[1]. Kuhajda FP, Pizer ES, Li JN, et al. Synthesis and antitumor activity of an inhibitor of fatty acid synthase. Proc Natl Acad Sci U S A, 2000, 97(7): 3450-3454.
[2]. Landree LE, Hanlon AL, Strong DW, et al. C75, a fatty acid synthase inhibitor, modulates AMP-activated protein kinase to alter neuronal energy metabolism. J Biol Chem, 2004, 279(5): 3817-3827.
[3]. Ho TS, Ho YP, Wong WY, et al. Fatty acid synthase inhibitors cerulenin and C75 retard growth and induce caspase-dependent apoptosis in human melanoma A-375 cells. Biomed Pharmacother, 2007, 61(9): 578-587.
[4]. Thupari JN, Kim EK, Moran TH, et al. Chronic C75 treatment of diet-induced obese mice increases fat oxidation and reduces food intake to reduce adipose mass. Am J Physiol Endocrinol Metab, 2004, 287(1): E97-E104.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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