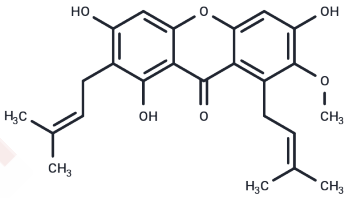
Data Sheet (Cat.No.T1717)

TargetMol

alpha-Mangostin

Chemical Properties



CAS No. : 6147-11-1

Formula: C24H26O6

Molecular Weight: 410.46

Storage: Keep away from direct sunlight,Keep away from moisture
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	alpha-Mangostin (Mangostin) is a natural xanthonoid, a type of organic compound isolated from various parts of the mangosteen tree.
Targets(IC50)	Apoptosis,Reactive Oxygen Species,Antibacterial,Antifungal,Dehydrogenase,ROS,Virus Protease
In vitro	Alpha-mangostin exhibits a selective inhibitory effect on IDH1-R132H, but not on IDH1. Alpha-mangostin competitively inhibits the binding of alpha-mangostin (α-KG) to IDH1-R132H. The structure-relationship study reveals that alpha-mangostin exhibits the strongest core inhibitor structure. Alpha-mangostin selectively promotes demethylation of 5-methylcytosine (5mC) and histone H3 trimethylated lysine residues in IDH1 (+/R132H) MCF10A cells[1]. Cell proliferation significantly decreases in a dose-dependent manner in the cells treated with alpha-mangostin. Alpha-mangostin also increases the levels of Bax (pro-apoptotic), cleaved caspase-3, cleaved caspase-9 and cleaved-poly(ADP-ribose) polymerase (PARP)[2]. Alpha-mangostin significantly inhibits light-induced degeneration of photoreceptors and 200 μM Water2-induced apoptosis of RPE cells. 200 μM Water2-induced generation of reactive oxygen species (ROS) and light-induced generation of malondialdehyde (MDA) are suppressed by alpha-mangostin[3].
In vivo	Alpha-mangostin mitigates the risk of liver fibrosis by diminishing p53 expression relative to TAA_DMSO treatment. Moreover, following α-mangostin administration, serum concentrations of liver enzymes AST and ALT are reduced in comparison to treatment with DMSO alone[4].
Cell Research	IDH1+/+ and IDH1<sup+/R132H MCF10A cells are grown in DMEM/F-12 media, supplemented with 5% horse serum, 20 ng/mL EGF, 0.5 μg/mL hydrocortisone, 10 μg/mL insulin. IDH1+/+ and IDH1<sup+/R132H MCF10A cells are seeded in 6 well plates. After an exposure to 5 μM alpha-mangostin. cells are collected after indicated times and the viable cell number is calculated, using hemacytometer counting[1].

Solubility Information

Solubility	DMSO: 252.5 mg/mL (615.16 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (4.87 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4363 mL	12.1815 mL	24.3629 mL
5 mM	0.4873 mL	2.4363 mL	4.8726 mL
10 mM	0.2436 mL	1.2181 mL	2.4363 mL
50 mM	0.0487 mL	0.2436 mL	0.4873 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

LEE, H., JANG, H., KIM, H., SHIN, S., CHOO, G., & PARK, Y. et al. (2016). Antitumor and apoptosis-inducing effects of α-mangostin extracted from the pericarp of the mangosteen fruit (Garcinia mangostana L.) in YD-15 tongue mucoepidermoid carcinoma cells. International Journal Of Molecular Medicine, 37(4), 939-948. doi: 10.3892/ijmm.2016.2517

Stolz B J, Abouelkhair A A, Seleem M N.Screening novel antiviral compounds to treat Clostridioides difficile infections.PloS one.2024, 19(12): e0309624.