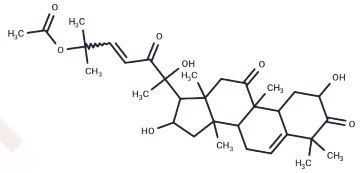
Data Sheet (Cat.No.T3404)

TargetMol

Cucurbitacin B

Chemical Properties



CAS No. : 6199-67-3

Formula: C32H46O8

Molecular Weight: 558.70

Storage: Keep away from moisture,Keep away from direct sunlight
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	Cucurbitacin B (Cuc B) has profound in vitro and in vivo antiproliferative effects against human pancreatic Y cells. It inhibited AKT signaling activation through up-regulation of PTEN. Cucurbitacin B is an effective inhibitor of HIF-1 and provide new perspectives into the mechanism of its anticancer activity. Cucurbitacin B inhibits proliferation and induces apoptosis via STAT3 pathway inhibition in A549 lung Y cells.
Targets(IC50)	Apoptosis,PTEN,HIF/HIF Prolyl-Hydroxylase,Endogenous Metabolite,HIF,STAT, Autophagy,COX,Integrin,ROS Kinase
In vitro	Cucurbitacin B inhibits the growth of 5 GBM cell lines: U87, U118, U343, U373 and T98 g by affecting the cytoskeleton and the JNK pathway, with ED50 ranged from 5 nM to 100 nM. Cucurbitacin B also causes cell cycle arrest at the G2/M phase, decreases cell migration and induces apoptosis of GBM cells. [1] In human breast cancer cell lines, Cucurbitacin B also inhibits cell growth with ED50 varied from 30.3 nM to 418 nM, and rapidly induces cytoskeletal disruption. [2] In addition, Cucurbitacin B possesses immunomodulatory and anti-inflammatory effects, depending on the induction of heme oxygenase-1 expression via Nrf2 activation. [3]
In vivo	In nude mice bearing MDA-MB-231 tumors, Cucurbitacin B (1 mg/kg, i.p.) inhibits tumor growth by 55 %, and causes lower serum glucose levels. [2]
Cell Research	For proliferation measurements, the cells are placed into 96 well plates, and cell growth is measured at various times by MTT assay according to the protocol.(Only for Reference)

Solubility Information

Solubility	DMSO: 144.00 mg/mL (257.74 mM),Sonication is recommended. Chloroform, Dichloromethane, Ethyl Acetate: Soluble, Ethanol: 50.00 mg/mL (89.49 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4.00 mg/mL (7.16 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*

In vivo Formulation	*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	1.7899 mL	8.9493 mL	17.8987 mL
5 mM	0.358 mL	1.7899 mL	3.5797 mL
10 mM	0.179 mL	0.8949 mL	1.7899 mL
50 mM	0.0358 mL	0.179 mL	0.358 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

Yin D, et al. Int J Cancer. 2008, 123(6), 1364-1375.
Ge J B, Jiang B, Shi T S, et al.Cucurbitacin B exerts significant antidepressant-like effects in a chronic unpredictable mild stress model of depression: Involvement of the hippocampal BDNF-TrkB system.International Journal of Neuropsychopharmacology.2023: pyad052.
Wakimoto N, et al. Cancer Sci. 2008, 99(9), 1793-1797.
Kim M. et al. Immunopharmacol Immunotoxicol. 2015, 37(5), 473-480.