

Cucurbitacin B

Catalog No: tcsc3816



Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg



Specifications

CAS No:

6199-67-3

Formula:

$C_{32}H_{46}O_8$

Pathway:

Cytoskeleton;Autophagy

Target:

Integrin;Autophagy

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Observed Molecular Weight:

558.7

Product Description

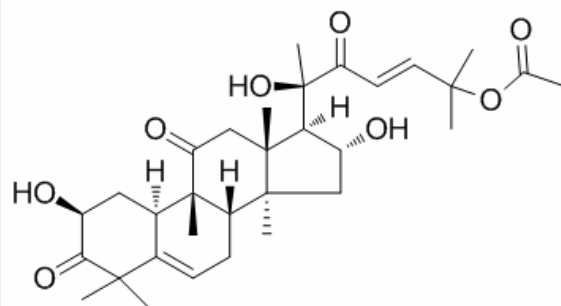
Cucurbitacin B belongs to a class of highly oxidized tetracyclic triterpenoids; could repress cancer cell progression.

IC50 value:

Target: anticancer natural compound

in vitro: Cucurbitacin-B inhibited growth and modulated expression of cell-cycle regulators in SHSY5Y cells. At the molecular level, we found that Cucurbitacin-B inhibited AKT signaling activation through up-regulation of PTEN [1]. CuB induced apoptosis of A549 cells in a -concentration-dependent manner, as determined by fluorescence microscopy, flow cytometry and transmission electron microscopy. CuB dose-dependently inhibited lung cancer cell proliferation, with cell cycle inhibition and cyclin B1 downregulation. Apoptosis induced by CuB was shown to be associated with cytochrome c release, B-cell lymphoma 2 downregulation and signal transducer and activator of transcription 3 pathway inhibition [2]. CuB inhibited ITGA6 and ITGB4 (integrin α 6 and integrin β 4), which are overexpressed in breast cancer. Furthermore, CuB also induced the expression of major ITGB1 and ITGB3, which are known to cause integrin-mediated cell death [3]. Cuc B treatment caused DNA double-strand breaks (DSBs) without affecting the signal transducer and activator of transcription 3 (STAT3), the potential molecular target for Cuc B. Cuc B triggers ATM-activated Chk1-Cdc25C-Cdk1, which could be reversed by both ATM siRNA and Chk1 siRNA. Cuc B also triggers ATM-activated p53-14-3-3- σ pathways, which could be reversed by ATM siRNA [4].

in vivo: Efficacy of CuB was tested in vivo using two different orthotopic models of breast cancer. MDA-MB-231 and 4T-1 cells were injected orthotopically in the mammary fat pad of female athymic nude mice or BALB/c mice respectively. Our results showed that CuB administration inhibited MDA-MB-231 orthotopic tumors by 55%, and 4T-1 tumors by 40%. The 4T-1 cells represent stage IV breast cancer and form very aggressive tumors [3].



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