

Betulinic acid

Catalog No: tcsc1216



Available Sizes

Size: 100mg

Size: 200mg

Size: 500mg



Specifications

CAS No:

472-15-1

Formula:

$C_{30}H_{48}O_3$

Pathway:

Apoptosis;Cell Cycle/DNA Damage;Autophagy;Anti-infection;Autophagy

Target:

Apoptosis;Topoisomerase;Autophagy;HIV;Mitophagy

Purity / Grade:

>98%

Solubility:

DMSO : 60 mg/mL (131.38 mM; Need ultrasonic)

Alternative Names:

Lupatic acid;Betulic acid

Observed Molecular Weight:

456.7

Product Description

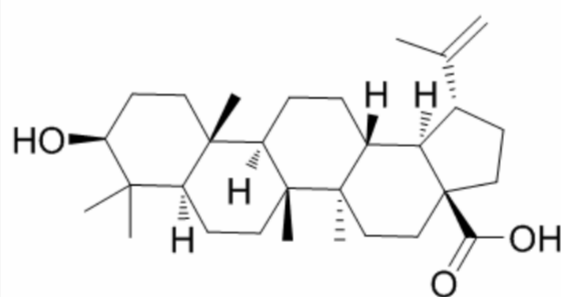
Betulinic acid is a natural pentacyclic triterpenoid, acts as a eukaryotic **topoisomerase I** inhibitor, with an **IC₅₀** of 5 μM , and possesses anti-HIV, anti-malarial, anti-inflammatory and anti-tumor properties.

IC50 & Target: IC50: 5 μM (eukaryotic topoisomerase I)^[1]

EC50: 1.4 μM (HIV-1)^[4]

In Vitro: Betulinic acid is a eukaryotic topoisomerase I inhibitor, with an **IC₅₀** of 5 μM , and prevents topoisomerase I-DNA interaction^[1]. Betulinic acid (10, 20, 40, 80, and 160 μM) significantly suppresses MDA-MB-231 cell viability in a time- and dose-dependent manner after treatment for 24 or 48 h. Betulinic acid (20, 40 μM) causes decrease in Bcl-2 expression of MDA-MB-231 cells. Betulinic acid also induces morphological changes of MDA-MB-231 cells at 20 μM , and leads to ultrastructure changes of MDA-MB-231 cells at 40 μM ^[2]. Betulinic acid shows anti-HIV activities, with an **EC₅₀** of 1.4 μM in acutely infected H9 lymphocytes^[4].

In Vivo: Betulinic acid (10 and 30 mg/kg, p.o.) significantly abrogates colon shortening, and reduces malondialdehyde (MDA) and lipid hydroperoxide levels in dextran sulfate sodium (DSS)-induced colitis in mice. Betulinic acid (30 mg/kg, p.o.) restores superoxide dismutase (SOD), catalase activity and glutathione (GSH) content to control levels in DSS-induced colitis in mice. Betulinic acid (30 mg/kg, p.o.) also inhibits the DSS-induced increase in inflammatory markers. Betulinic acid (3, 10, 30 mg/kg, p.o.) suppresses acetic acid-induced writhing responses and mustard oil (MO)-induced visceral nociception in mice^[3].



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