

Parthenolide

Catalog No: tcsc1919



Available Sizes

Size: 50mg

Size: 100mg

Size: 200mg



Specifications

CAS No:

20554-84-1

Formula:

$C_{15}H_{20}O_3$

Pathway:

Autophagy;NF-κB;Autophagy

Target:

Autophagy;NF-κB;Mitophagy

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 100 mg/mL (402.71 mM)

Alternative Names:

(-)-Parthenolide

Observed Molecular Weight:

248.32

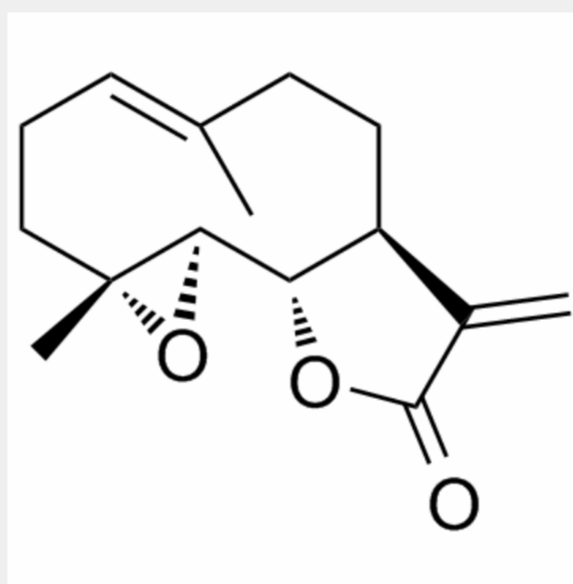
Product Description

Parthenolide is an **NF-κB** inhibitor, reduces histone deacetylase 1 (HDAC-1) and DNA methyltransferase 1 independent of NF-κB inhibition.

IC50 & Target: NF-κB, HDAC1, DNA Methyltransferase 1^[1]

In Vitro: Parthenolide (PTL) has a dose-dependent growth inhibition effect on NSCLC cells Calu-1, H1792, A549, H1299, H157, and H460. Parthenolide can induce cleavage of apoptotic proteins such as CASP8, CASP9, CASP3 and PARP1 both in concentration- and time-dependent manner in tested lung cancer cells, indicating that apoptosis is triggered after Parthenolide exposure. In addition to induction of apoptosis, Parthenolide also induces G₀/G₁ cell cycle arrest in a concentration-dependent manner in A549 cells and G₂/M cell cycle arrest in H1792 cells^[2].

In Vivo: Only Parthenolide, the HDAC inhibitor with anti-inflammatory features, displayed a potent anti-apoptotic effect in *Phb1* KO hepatocytes. Indeed, TSA and Parthenolide-treated hepatocytes showed increased levels of FXR, and reduced levels of CYP7A1, HDAC4, TNFα, TRAIL and Bax suggesting a less toxic effect of bile acids as a results of specific HDAC inhibition, resulting in the attenuation of the *Phb1* KO hepatocytes apoptotic response. Importantly, Parthenolide exerts a protective effect from the liver injury after BDL in *Phb1* KO mice. Indeed, Parthenolide treatment results in a reduction of the mortality rate of this mice after BDL associated with a lower apoptotic response as revealed by a reduction of necrotic areas, Tunel-staining, as well as decreased ALT (8431±957 vs.4225±210 U/L) and AST (4805±300 vs.2242±438 U/L) activities compared to control *Phb1* KO mice^[3].



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