Web: www.taiclone.com
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Ginsenoside Rh4

Catalog No: tcsc3843

Available Sizes

Size: 5mg

Size: 10mg

Specifications

CAS No:
174721-08-5

Formula:
$C_{36}H_{60}O_8$

Pathway:
Apoptosis;Apoptosis;Autophagy;Apoptosis

Target:
Apoptosis;Caspase;Autophagy;Bcl-2 Family

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
620.86

Product Description

Ginsenoside Rh4 is a rare saponin obtained from *Panax notoginseng*. Ginsenoside Rh4 activates **Bax**, **caspase 3**, **caspase 8**, and **caspase 9**. Ginsenoside Rh4 also induces **autophagy**.

IC50 & Target: Bax[1]

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Caspase 3, Caspase 8, and Caspase 9[1]

Apoptosis[1]

Autophagy[1]

In Vitro: Ginsenoside Rh4 causes cytochrome C release and activates the death receptor Fas, the pro-apoptotic protein Bax, and caspase 3, caspase 8, and caspase 9. Ginsenoside Rh4 induces caspase-dependent apoptosis via both the intrinsic and extrinsic pathways in Caco-2 and HCT-116 cells. The CCK-8 assay reveals that Ginsenoside Rh4 can significantly inhibit the growth of colorectal carcinoma cells, such as Caco-2 and HCT-116 cells, to varying degrees. Ginsenoside Rh4 dramatically reduces cell viability in a concentration- and time-dependent manner. In particular, treatment with 120 and 180 μM Ginsenoside Rh4 results in marked Caco-2 cell death of 44.51±1.23% and 75.74±2.91%, respectively, after incubation for 48 h. Similar results are observed in HCT-116 cells treated with concentrations of 120 μM (33.62±1.98%) and 180 μM Ginsenoside Rh4 (59.88±2.31%). In contrast, concentrations of Rh4 from 120 to 300 μM cause no obvious toxic effects on the normal human colon epithelial cell line CCD-18Co, and a slight difference in the effect is observed between 24 and 48 h of treatment. In the colony formation assay, the number of colonies is found to be significantly decreased in Caco-2 and HCT-116 cells, whereas the number of colonies is almost unchanged in CCD-18Co cells[1].

In Vivo: To assess whether Ginsenoside Rh4 can inhibit the growth of colorectal cancer, a colorectal cancer xenograft model is established by inoculating nude mice with Caco-2 cells. Mice treated with 20 and 40 mg/kg Ginsenoside Rh4 and 40 mg/kg CAMPTO exhibit smaller tumors than the control after 30 days of treatment, showing inhibition rates of 29.91%, 66.30% and 77.82%, respectively. However, there is a significant difference in body weight between the Ginsenoside Rh4-treated group and the CAMPTO-treated group. The body weights of the 20 and 40 mg/kg Ginsenoside Rh4-treated groups (15.95±0.35 g and 18.35±0.44 g) are markedly higher, whereas the body weight of the CAMPTO-treated group is lower (10.85±0.28 g) than that of the solvent control group (14.19±0.25 g)[1].