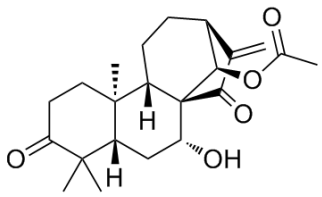
Glaucocalyxin B

Cat. No.:	HY-N2113		
CAS No.:	80508-81-2		
Molecular Formula:	$C_{22}H_{30}O_5$		
Molecular Weight:	374.47		
Target:	Autophagy		
Pathway:	Autophagy		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



BIOLOGICAL ACTIVITY

Description	Glaucocalyxin B is an ent kaurane diterpenoid isolated from the Chinese traditional medicine Rabdosia japonica with anticancer and antitumor activity; decreases the growth of HL-60 cells with an **IC_{50}** of approximately 5.86 μM at 24 h.
IC_{50} & Target	IC50: 5.86 μM (HL-60 cell Growth)[1]
In Vitro	Glaucocalyxin A (GlnA) and (GlnB) dose-dependently decrease the growth of HL-60 cells with an IC_{50} of approximately 6.15 and 5.86 μM at 24 h, respectively. Both Gln A and B could induce apoptosis, G2/M-phase cycle arrest, DNA damage and the accumulation of reactive oxygen species (ROS) in HL-60 cells[1]. GlnB inhibits the proliferation of human cervical cancer cells in vitro through the induction of apoptosis andautophagy, which may be mediated by the phosphatidylinositol 4,5 bisphosphate 3 kinase/Akt signaling pathway. Treatment with GlnB inhibits the proliferation of HeLa and SiHa cervical cancer cell lines in a dose dependent manner. GlnB increases the apoptotic cell population of and enhanced poly (ADP ribose) polymerase 1 cleavage. GlnB also induces increased light chain 3 II/I protein cleavage, indicating the induction of autophagy. GlnB treatment increases the expression of phosphatase and tensin homolog and decreases the expression of phosphorylated protein kinase B[2]. Glaucocalyxin B (GLB), one of five ent-kauranoid diterpenoids, significantly decreased the generation of nitric oxide (NO), tumor necrosis factor (TNF)-α, interleukin (IL)-1β, cyclooxygenase (COX)-2 and inducible nitric oxide synthase (iNOS) in the lipopolysaccharide (LPS)-activated microglia cells[3].

PROTOCOL

Cell Assay [3]	The microglia cells viability is assessed by MTT assay. Cells are seeded in 96-well plates at the density of 5 × 10^4 cells/well. The cell culture supernatant is discarded after treatment with various agents, and then 30 μL of MTT (0.5 mg/mL) solution is added into each well. After incubation for 4 h at 37 °C, 100 μL of DMSO is added into each well to dissolve the formazan dye, and then the absorbance of solubilized formazan is measured by microplate reader[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Yang WH, et al. Glaucocalyxin A and B-induced cell death is related to GSH perturbation in human leukemia HL-60 cells. Anticancer Agents Med Chem. 2013 Oct;13(8):1280-90.

[2]. Pan Y, et al. Glaucocalyxin B induces apoptosis and autophagy in human cervical cancer cells. Mol Med Rep. 2016 Aug;14(2):1751-5.

[3]. Gan P, et al. Anti-inflammatory effects of glaucocalyxin B in microglia cells. J Pharmacol Sci. 2015 May;128(1):35-46.

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