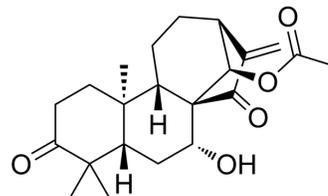


Glaucoalyxin B

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



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (267.04 mM; Need ultrasonic)																							
	Preparing Stock Solutions	<table border="1"> <thead> <tr> <th rowspan="2">Solvent Concentration</th> <th colspan="3">Mass</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td>1 mM</td> <td>2.6704 mL</td> <td>13.3522 mL</td> <td>26.7044 mL</td> </tr> <tr> <td>5 mM</td> <td>0.5341 mL</td> <td>2.6704 mL</td> <td>5.3409 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2670 mL</td> <td>1.3352 mL</td> <td>2.6704 mL</td> </tr> </tbody> </table>	Solvent Concentration	Mass			1 mg	5 mg	10 mg	1 mM	2.6704 mL	13.3522 mL	26.7044 mL	5 mM	0.5341 mL	2.6704 mL	5.3409 mL	10 mM	0.2670 mL	1.3352 mL	2.6704 mL			
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Please refer to the solubility information to select the appropriate solvent.																								
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1.25 mg/mL (3.34 mM); Clear solution																							
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.25 mg/mL (3.34 mM); Clear solution																							
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.25 mg/mL (3.34 mM); Clear solution																							

BIOLOGICAL ACTIVITY

Description	Glaucoalyxin B is an ent kaurane diterpenoid isolated from the Chinese traditional medicine <i>Rabdosia japonica</i> 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	IC ₅₀ : 5.86 μM (HL-60 cell Growth) ^[1]
In Vitro	Glaucoalyxin 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, G ₂ /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 and autophagy, 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 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)-1 β , cyclooxygenase (COX)-2 and inducible nitric oxide synthase (iNOS) in the lipopolysaccharide (LPS)-activated microglia cells^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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 μ L of MTT (0.5 mg/mL) solution is added into each well. After incubation for 4 h at 37 °C, 100 μ L 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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