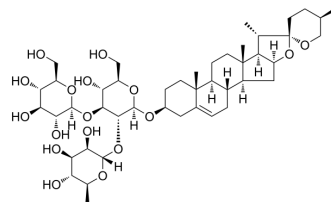


Gracillin

Cat. No.:	HY-N0706
CAS No.:	19083-00-2
Molecular Formula:	C ₄₅ H ₇₂ O ₁₇
Molecular Weight:	885.04
Target:	Apoptosis; Autophagy
Pathway:	Apoptosis; Autophagy
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (112.99 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		1 mg	5 mg	10 mg
		1 mM	1.1299 mL	5.6495 mL	11.2989 mL
		5 mM	0.2260 mL	1.1299 mL	2.2598 mL
	10 mM	0.1130 mL	0.5649 mL	1.1299 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (2.35 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Gracillin is a steroidal saponin that can be extracted from the roots of the plant and has anti-tumor properties. Gracillin can induce cancer cell apoptosis and autophagy ^{[1][2]} .		
In Vitro	<p>Gracillin (0-10 μM, 6-24 h) shows broad-spectrum inhibitory effects on the cancer cell viability^[1].</p> <p>Gracillin (5 μM) disrupts mitochondrial function, specifically, inhibits ATP production, activates AMPK, inhibits oxygen consumption rate (OCR) in H460 and A549 cells^[1].</p> <p>Gracillin (0-10 μM, 6 h) induces ROS generation (indicated by H2DCF-DA) in H460, H1299, H226B and A549 cells^[1].</p> <p>Gracillin (0-4 μM, 24 h) blocks cell cycle in G1 phase, and induces apoptosis and autophagy in A549 cells^{[2][3]}.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Apoptosis Analysis^[2]</p> <table border="1" style="width: 100%;"> <tr> <td>Cell Line:</td> <td>A549 cells</td> </tr> </table>	Cell Line:	A549 cells
Cell Line:	A549 cells		

	Concentration:	0-4 μ M
	Incubation Time:	24 h
	Result:	Induced morphological changes. Apoptosis rate: 6.56%-67.43%.
In Vivo	Gracillin (oral gavage, 10 mg/kg for xenografts and 20 mg/kg for PDX) inhibits tumor growth of xenograft tumors inoculating lung (H1299), prostate (DU145), and colorectum (HCT116) cancer cells, as well as patient-derived xenograft colon and lung tumors ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

CUSTOMER VALIDATION

- Immunopharmacol Immunotoxicol. 2021 Oct 7;1-12.

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REFERENCES

- [1]. Min HY, et al. The natural compound gracillin exerts potent antitumor activity by targeting mitochondrial complex II. Cell Death Dis. 2019 Oct 24;10(11):810.
- [2]. Yang J, et al. Gracillin Isolated from Reineckia carnea Induces Apoptosis of A549 Cells via the Mitochondrial Pathway. Drug Des Devel Ther. 2021 Jan 20;15:233-243.
- [3]. Li Y, et al. Gracillin Shows Potential Efficacy Against Non-Small Cell Lung Cancer Through Inhibiting the mTOR Pathway. Front Oncol. 2022 Mar 22;12:851300.

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

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