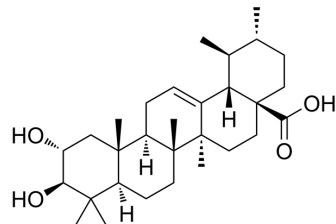


Corosolic acid

Cat. No.:	HY-N0280												
CAS No.:	4547-24-4												
Molecular Formula:	C ₃₀ H ₄₈ O ₄												
Molecular Weight:	472.7												
Target:	Autophagy; Apoptosis; EGFR												
Pathway:	Autophagy; Apoptosis; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK												
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>2 years</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 year</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	2 years		-20°C	1 year
Powder	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	2 years											
	-20°C	1 year											



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (52.89 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.1155 mL	10.5775 mL	21.1551 mL
		5 mM	0.4231 mL	2.1155 mL	4.2310 mL
10 mM		0.2116 mL	1.0578 mL	2.1155 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.75 mg/mL (5.82 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.29 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Corosolic acid (Colosolic acid) isolated from the fruit of <i>Cratoegus pinnatifida</i> var. <i>psilosa</i> , was reported to have anticancer activity. Corosolic acid induces cancer cell apoptosis ^{[1][2][3]} .
In Vitro	<p>Corosolic acid shows cytotoxicity for Hep G2, A549, SNU-C4, HeLa, K-562 cells, with ED₅₀s of 0.4-5.0 µg/mL^[1].</p> <p>Corosolic acid (0-50 µg/mL) inhibits PKC activity in a dose-dependent way^[1].</p> <p>Corosolic acid (0-50 µM, 6-24 h) induces apoptosis and increases cells in the sub-G1 population in CT-26 cells^[3].</p> <p>Corosolic acid (20 µM, 0-24 h) inhibits HER2/HER3 heterodimerization and phosphorylation of HER2 and HER3 in HCT116 and SW480 cells^[5].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Apoptosis Analysis^[3]</p>

Cell Line:	CT-26 cells
Concentration:	25 μ M
Incubation Time:	12 and 24 h
Result:	Increased cleaved caspase-3 level. Increased cells in the sub-G1 population. Increased fluorescein-dUTP labeling DNA strand breaks.
Western Blot Analysis ^[5]	
Cell Line:	HCT116 and SW480 cells
Concentration:	20 μ M
Incubation Time:	0-24 h
Result:	Decreased the formation of NRG1-induced HER2/HER3 heterodimer. Inhibited the PI3K/Akt/PDE3B but not the ERK1/2 signaling pathway.

In Vivo

Corosolic acid (5, 25 mg/kg/day, peritumor injection, 12 days) inhibits tumor growth and shows anti-angiogenic effect in CT-26 allograft colon carcinoma mice model^[3].

Corosolic acid (10 and 20 mg/kg, i.p., every 2 days) inhibits tumor growth in a murine PC-3 xenograft model by activating ER stress^[4].

Corosolic acid (10 mg/kg/d, supplemented in diet, 8 weeks) inhibits adipose tissue inflammation, and improves insulin resistance via AMPK activation in high-fat fed mice^[6].

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

Animal Model:	CT-26 allograft colon carcinoma mice model ^[3]
Dosage:	5, 25 mg/kg/day
Administration:	Peritumor injection, 12 days
Result:	Reduced the tumor weight to 76.2% and 53.8% of the control group. Reduced blood and lymphatic vessel densities.
Animal Model:	high-fat fed mice ^[6]
Dosage:	10 mg/kg/day
Administration:	Supplemented in diet, 8 weeks
Result:	Inhibited hyperlipidemia, Improved insulin sensitivity and glucose intolerance. Inhibited inflammation in adipose tissues. Inhibited macrophage infiltrations into adipose tissue.

REFERENCES

[1]. Ma B, et al. Corosolic acid, a natural triterpenoid, induces ER stress-dependent apoptosis in human castration resistant prostate cancer cells via activation of IRE-1/JNK, PERK/CHOP and TRIB3. *J Exp Clin Cancer Res.* 2018 Sep 3;37(1):210.

[2]. Zhang BY, et al. Corosolic acid inhibits colorectal cancer cells growth as a novel HER2/HER3 heterodimerization inhibitor. *Br J Pharmacol.* 2021 Mar;178(6):1475-1491.

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- [3]. Yang J, et al. Corosolic acid inhibits adipose tissue inflammation and ameliorates insulin resistance via AMPK activation in high-fat fed mice. *Phytomedicine*. 2016 Feb 15;23(2):181-90.
- [4]. Ahn KS, et al. Corosolic acid isolated from the fruit of *Crataegus pinnatifida* var. *psilosa* is a protein kinase C inhibitor as well as a cytotoxic agent. *Planta Med*. 1998 Jun;64(5):468-70.
- [5]. Li Biao, et al. Mechanism of antitumor action of corosolic acid. *China Journal of Modern Medicine*, 2015-08
- [6]. Ki Hyun Yoo, et al. Corosolic Acid Exhibits Anti-angiogenic and Anti-lymphangiogenic Effects on In Vitro Endothelial Cells and on an In Vivo CT-26 Colon Carcinoma Animal Model. *Phytotherapy Research*, 2015, 29 (5): 14–723
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Caution: Product has not been fully validated for medical applications. For research use only.

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