Corilagin

Cat. No.: HY-N0462

CAS No.: 23094-69-1

Molecular Formula: $C_{27}H_{22}O_{18}$

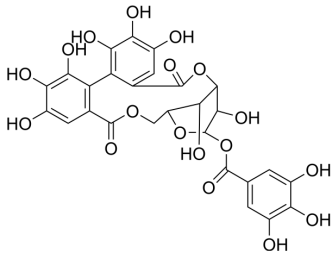
Molecular Weight: 634.45

Target: Reverse Transcriptase; Bacterial; Apoptosis; Autophagy; Toll-like Receptor (TLR)

Pathway: Anti-infection; Apoptosis; Autophagy; Immunology/Inflammation

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (157.62 mM; Need ultrasonic)

H_2O : 5 mg/mL (7.88 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.5762 mL	7.8808 mL	15.7617 mL
	5 mM	0.3152 mL	1.5762 mL	3.1523 mL
	10 mM	0.1576 mL	0.7881 mL	1.5762 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 5.88 mg/mL (9.27 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (3.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (3.28 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Corilagin, a gallotannin, has anti-tumor, anti-inflammatory and hepatoprotective activities. Corilagin inhibits activity of reverse transcriptase of RNA tumor viruses. Corilagin also inhibits the growth of Staphylococcus aureus with a MIC of 25 μg/mL. Corilagin shows anti-tumor activity on hepatocellular carcinoma and ovarian cancer model. Corilagin shows low toxicity to normal cells and tissues[1][2][3].

In Vitro

Corilagin (0-50 μM, 24 h) inhibits SGC7901 and BGC823 cell growth, and the cells became rounded[2].
Corilagin (0-30 μM, 24 h) induces SGC7901 and BGC823 cell apoptosis[2].
Corilagin (0-30 μM, 24 h) decreased the protein levels of procaspase-8, -9 and -3 and increases cleaved PARP in SGC7901 and BGC823 cell[2].
Corilagin (0-30 μM, 24 h) induces autophagy in SGC7901 and BGC823 cell (enhancement of acidic vesicles, increased the level of LC3II)[2].
Corilagin (0-30 μM, 24 h) induces ROS generation in SGC7901 and BGC823 cell[2].
Corilagin (40 μM, 24 or 48 h) induces G2 cell cycle arrest and apoptosis in Hey and SKOv3ip cells[3].
Corilagin (0-80 μM, 1-3 days) inhibits the secretion of TGF-β1 in Hey, SKOv3ip and HO8910PM cells[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	SGC7901 and BGC823 cell
Concentration:	0, 10, 20, 30, 40 and 50 μM
Incubation Time:	24 h
Result:	Inhibited cell proliferation in a concentration-dependent manner.

Western Blot Analysis[2]

Cell Line:	SGC7901 and BGC823 cell
Concentration:	0, 10, 20, 30 μM
Incubation Time:	24 h
Result:	Decreased the protein levels of procaspase-8, -9 and -3 and increased the level of cleaved PARP.

In Vivo

Corilagin (15 mg/kg, i.p., for 7 days) shows anti-tumor activity in Hep3B hepatocellular carcinoma[4].
Corilagin (0-20 mg/kg, i.p.) prevents APAP-induced hepatotoxicity in mice[5].
Corilagin (10 and 100 mg/kg, i.p.) ameliorates Bleomycin-induced pulmonary fibrosis in mice[6].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Hep3B hepatocellular carcinoma mouse model[4].
Dosage:	15 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Inhibited tumor growth without toxic effects.

Animal Model:	APAP-induced hepatotoxicity in mice[5]
Dosage:	0, 1, 5, 10, 20 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Decreased APAP-induced serum ALT level, hepatic myeloperoxidase (MPO) activity, cytokines (TNF-α, IL-1β, and IL-6) production, malondialdehyde (MDA) activity, and ERK/JNK MAPK and NF-κB protein expressions.

CUSTOMER VALIDATION

- Front Immunol. 2022 Jan 13;12:807509.
- Fitoterapia. 2023 Nov 10:172:105743.

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REFERENCES

[1]. Xu J, et al. Corilagin induces apoptosis, autophagy and ROS generation in gastric cancer cells in vitro. Int J Mol Med. 2019 Feb;43(2):967-979.

[2]. Jia L, et al. A potential anti-tumor herbal medicine, Corilagin, inhibits ovarian cancer cell growth through blocking the TGF-β signaling pathways. BMC Complement Altern Med. 2013 Feb 15;13:33.

[3]. Hau DK, et al. In vivo anti-tumour activity of corilagin on Hep3B hepatocellular carcinoma. Phytomedicine. 2010 Dec 15;18(1):11-5.

[4]. Liu FC, et al. Corilagin reduces acetaminophen-induced hepatotoxicity through MAPK and NF-κB signaling pathway in a mouse model. Am J Transl Res. 2020 Sep 15;12(9):5597-5607.

[5]. Wang Z, et al. Corilagin attenuates aerosol bleomycin-induced experimental lung injury. Int J Mol Sci. 2014 May 30;15(6):9762-79.

[6]. Li X, et al. Corilagin, a promising medicinal herbal agent. Biomed Pharmacother. 2018 Mar;99:43-50.

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