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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
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Chlorogenic acid

Cat. No.: HY-N0055

CAS No.: 327-97-9

Molecular Formula: $C_{16}H_{18}O_9$

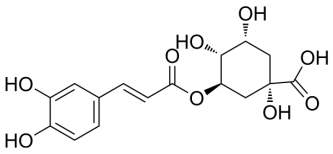
Molecular Weight: 354.31

Target: HIF/HIF Prolyl-Hydroxylase; Reactive Oxygen Species; Bacterial; Influenza Virus; Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease; Immunology/Inflammation; NF-κB; Anti-infection

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (282.24 mM; Need ultrasonic)

H_2O : ≥ 20 mg/mL (56.45 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8224 mL	14.1119 mL	28.2239 mL
	5 mM	0.5645 mL	2.8224 mL	5.6448 mL
	10 mM	0.2822 mL	1.4112 mL	2.8224 mL

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: ≥ 2.5 mg/mL (7.06 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.06 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Chlorogenic acid is a major phenolic compound in Lonicera japonica Thunb. It is an orally active antioxidant activity, antibacterial, hepatoprotective, cardioprotective, anti-inflammatory, antipyretic, neuroprotective, anti-obesity, antiviral, anti-microbial, anti-hypertension compound[1][2][3].

In Vitro

Chlorogenic acid (10 μM, 16 h) decreases HIF-1α protein levels in $CoCl_2$ induced hypoxic A549 cells, but does not affect HIF-1 α mRNA level[1].
Chlorogenic acid (10 μM, 24 h) inhibits the hypoxia-induced HUVEC cell migration, invasion and tube formation of vascular endothelial cells[1].
Chlorogenic acid (25, 50 μM, 24 h) inhibits cell proliferation of Huh7 cells, and reduces the number of invading and migrating cells[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Chlorogenic acid (10 μM, s.c.) inhibits VEGF (200 ng/mL)-induced angiogenesis in C57BL/6J mice, by suppression of AKT activation (Matrigel plug assay)[1].
Chlorogenic acid (10-100 mg/kg, p.o.) shows protective effects against experimental reflux esophagitis in rats[3].
Chlorogenic acid (10 mg/kg, i.v.) prevents endotoxic mortality and induced TNF-α release of LPS-intoxicated C57BL/6 mice, and ameliorates acute liver injury of LPS/GalN-challenged mice[2].
Chlorogenic acid (ip, 25-200 mg/kg) inhibits tumor growth in NOD/SCID mice inoculated with Huh7 or H446 cells[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Experimental reflux esophagitis (RE) in rats[1]
Dosage:	10, 30, 100 mg/kg
Administration:	p.o.
Result:	Reduced esophageal lipid peroxidation (marker: MDA) and increased the reduced glutathione/oxidized glutathione ratio. Inhibited the increases in the serum level of TNF-α, and expressions of iNOS and COX-2 protein.

Animal Model:	LPS/GalN-challenged mice[2]
Dosage:	10 mg/kg
Administration:	i.v.
Result:	Increased survival rates of LPS/GalN-intoxicated mice. Inhibited LPS/GalN-induced phosphorylation of NF-κB p65 or c-Jun, without affecting p-IRF3 levels in the liver lobules.

CUSTOMER VALIDATION

- Food Chem. 2017 Aug 1;228:143-151.
- Int J Biol Macromol. 2019 Sep 1;136:804-812.
- Phytother Res. 2022 Feb 8.
- J Agric Food Chem. 2020 Jul 29;68(30):8050-8056.
- Life Sci. 2020 Aug 1;254:117590.

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REFERENCES

[1]. Huang S, et al. Chlorogenic acid effectively treats cancers through induction of cancer cell differentiation. Theranostics. 2019 Sep 19;9(23):6745-6763.

[2]. Park JJ, et al. Chlorogenic acid inhibits hypoxia-induced angiogenesis via down-regulation of the HIF-1α/AKT pathway. Cell Oncol (Dordr). 2015 Jan 6.

[3]. Park SH, et al. IRAK4 as a Molecular Target in the Amelioration of Innate Immunity-Related Endotoxic Shock and Acute Liver Injury by Chlorogenic Acid. J Immunol. 2015 Feb 1;194(3):1122-30.

[4]. Kang JW, et al. Protective Effects of Chlorogenic Acid against Experimental Reflux Esophagitis in Rats. Biomol Ther (Seoul). 2014 Sep;22(5):420-5.

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