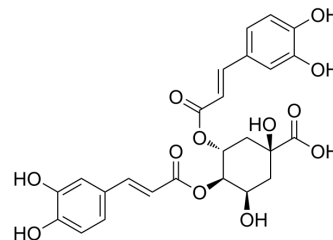


3,4-Dicaffeoylquinic acid

Cat. No.:	HY-N0057		
CAS No.:	14534-61-3		
Molecular Formula:	C ₂₅ H ₂₄ O ₁₂		
Molecular Weight:	516.45		
Target:	Endogenous Metabolite; Influenza Virus; Glucosidase; Apoptosis		
Pathway:	Metabolic Enzyme/Protease; Anti-infection; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

Methanol : 83.33 mg/mL (161.35 mM; Need ultrasonic)
 DMSO : 50 mg/mL (96.81 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.9363 mL	9.6815 mL	19.3630 mL
	5 mM	0.3873 mL	1.9363 mL	3.8726 mL
	10 mM	0.1936 mL	0.9681 mL	1.9363 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (4.84 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (4.84 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (4.84 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

3,4-Dicaffeoylquinic acid (3,4-Di-O-caffeoylquinic acid), naturally isolated from *Laggera alata*, has antioxidative, DNA protective, neuroprotective and hepatoprotective properties. 3,4-Dicaffeoylquinic acid exerts apoptosis-mediated cytotoxicity and α-glucosidase inhibitory effects. 3,4-Dicaffeoylquinic acid possesses a unique mechanism of anti-influenza viral activity, that is, enhancing viral clearance by increasing TRAIL^{[1][2][3]}.

In Vitro

3,4-Dicaffeoylquinic acid acts as a greater primary antioxidant than its methanol extract, by having higher ferric reducing

activity (EC₅₀ 2.18 µg/ml), β-carotene bleaching activity (EC₅₀ 23.85 µg/ml) and DPPH scavenging activity (EC₅₀ 68.91 µg/ml). 3,4-Dicaffeoylquinic acid exhibits a remarkable dose-dependent inhibitory effect on NCI-H23 (human lung adenocarcinoma) cell lines (EC₅₀ 3.26 µg/ml) and is found to be apoptotic in nature based on a clear indication of DNA fragmentation. 3,4-Dicaffeoylquinic acid also displays a concentration-dependent α-glucosidase inhibition with EC₅₀ 241.80 µg/ml^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Biosci. 2023 Nov 14;13(1):210.
- Foods. 2024 Apr 3, 13(7), 1101.
- Chem Pharm Bull. 2024 Jan;72(1):93-97.

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REFERENCES

- [1]. Takemura T, et al. 3,4-Dicaffeoylquinic Acid, a Major Constituent of Brazilian Propolis, Increases TRAIL Expression and Extends the Lifetimes of Mice Infected with the Influenza A Virus. *Evid Based Complement Alternat Med.* 2012;2012:946867.
- [2]. Liu X, et al. Protective effect of isochlorogenic acid B on liver fibrosis in non-alcoholic steatohepatitis of mice. *Basic Clin Pharmacol Toxicol.* 2019;124(2):144-153.
- [3]. Ooi KL, et al. Cytotoxic, apoptotic and anti-α-glucosidase activities of 3,4-di-O-caffeoyl quinic acid, an antioxidant isolated from the polyphenolic-rich extract of *Elephantopus mollis* Kunth. *J Ethnopharmacol.* 2011;135(3):685-695.

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

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