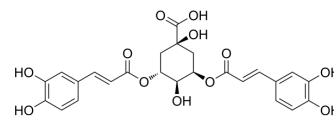


Isochlorogenic acid A

Cat. No.:	HY-N0056												
CAS No.:	2450-53-5												
Molecular Formula:	C ₂₅ H ₂₄ O ₁₂												
Molecular Weight:	516.45												
Target:	Reactive Oxygen Species; HBV; Endogenous Metabolite; HIV; Bacterial												
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Anti-infection												
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>6 months</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 month</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	6 months		-20°C	1 month
Powder	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	6 months											
	-20°C	1 month											



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (96.81 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	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

Isochlorogenic acid A (3,5-Dicaffeoylquinic acid) is a natural phenolic acid with anti-mutagenicity, anti-HBV, anti-HIV, anti-oxidant, anti-bacterial, and anti-inflammatory activities^[1].

In Vitro

Isochlorogenic acid A inhibits the aminoacylation activity of LeuRS from *Giardia lamblia* (GLeuRS), with an IC₅₀ of 5.82 μg/mL^[1].
 Isochlorogenic acid A (5-100 μM, 48 h) increases melanin content in B16 cells, and increases TYR proteins activity^[4].

Isochlorogenic acid A shows DPPH (IC₅₀=4.26 µg/mL), ABTS radical scavenging activity^[6].
Isochlorogenic acid A (0-250 µg/mL, 24 h) inhibits nitric oxide production in LPS-stimulated RAW 264.7 cells^[6].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis^[4]

Cell Line:	B16 cells
Concentration:	48 h
Incubation Time:	5, 50, and 100 µM
Result:	Increased tyrosinase (TYR), TRP1, TRP2, p-MITF, and total MITF protein expressions. Induced the phosphorylation of Akt at Thr308.

In Vivo

Isochlorogenic acid A (5 and 10 mg/kg, p.o., once a day for 3 weeks) ameliorates cognitive impairment induced by TMT in ICR male mice^[5].

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

Animal Model:	TMT-induced ICR male mice ^[5]
Dosage:	5 and 10 mg/kg
Administration:	p.o., once a day for 3 weeks
Result:	Improved spatial memory and learning ability of mice in MWM test. Reduced the TMT-induced increased AChE activity. Reduced the MDA content compared to the TMT group.

CUSTOMER VALIDATION

- Cell Biosci. 2023 Nov 14;13(1):210.
- J Funct Foods. 2021, 104400.
- Food Biosci. 2023 Oct, 55, 103069.
- Molecules. 2024 Feb 20, 29(5), 927.
- Food Sci Biotechnol. 2018 Jun 8;27(5):1439-1444.

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- [1]. Mamat N, et al. Isochlorogenic acid A promotes melanin synthesis in B16 cell through the β-catenin signal pathway. Acta Biochim Biophys Sin (Shanghai). 2017 Sep 1;49(9):800-807.
- [2]. Kang JY, et al. Reversal of Trimethyltin-Induced Learning and Memory Deficits by 3,5-Dicaffeoylquinic Acid. Oxid Med Cell Longev. 2016;2016:6981595.
- [3]. Hong, S., et al. Antioxidant and anti-inflammatory activities of 3,5-dicaffeoylquinic acid isolated from Ligularia fischeri leaves. Food Sci Biotechnol 24, 257–263 (2015).
- [4]. Zhang YH, et al. 3,5-Dicaffeoylquinic acid isolated from Artemisia argyi and its ester derivatives exert anti-leucyl-tRNA synthetase of Giardia lamblia (GLLeuRS) and potential anti-giardial effects. Fitoterapia. 2012 Oct;83(7):1281-5.
- [5]. Malarz J, et al. Long-term cultured hairy roots of chicory-a rich source of hydroxycinnamates and 8-deoxylactucin glucoside. Appl Biochem Biotechnol. 2013 Dec;171(7):1589-601.

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

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