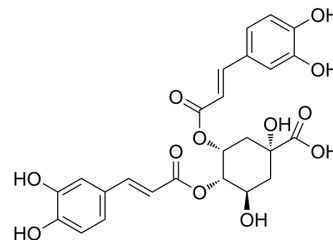


4,5-Dicaffeoylquinic acid

Cat. No.:	HY-N0058		
CAS No.:	57378-72-0		
Molecular Formula:	C ₂₅ H ₂₄ O ₁₂		
Molecular Weight:	516.45		
Target:	HBV; Endogenous Metabolite; Apoptosis; Glucosidase		
Pathway:	Anti-infection; Metabolic Enzyme/Protease; 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	DMSO : 50 mg/mL (96.81 mM; Need ultrasonic)					
		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	<ol style="list-style-type: none"> 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	4,5-Dicaffeoylquinic acid (Isochlorogenic acid C) is an antioxidant, can be isolated from <i>Gynura divaricata</i> and <i>Laggetera alata</i> . 4,5-Dicaffeoylquinic acid reduces islet cell apoptosis and improves pancreatic function in type 2 diabetic mice, and has obvious inhibitory activities against yeast α-glucosidase. 4,5-Dicaffeoylquinic acid inhibits prostate cancer cells through cell cycle arrest. 4,5-Dicaffeoylquinic acid also has anti-apoptotic, anti-injury and anti-hepatitis B virus effects ^{[1][2][3]} .
In Vitro	4,5-Dicaffeoylquinic acid (0.1~100 μM; 72 h) has dose-dependent inhibitory activity against DU-145 prostate cancer cells, and induces cell cycle arrest, also induces inactivation of Bcl-2 ^[2] .

4,5-Dicaffeoylquinic acid (1~100 µg/mL; 48 h) has anti-apoptotic effect in D-GalN-challenged HL-7702 hepatocytes, and improves significantly cell viability at concentrations of 10 to 100 µg/mL^[3].
 4,5-Dicaffeoylquinic acid (1~100 µg/mL; 4 days) inhibits significantly expressions of HBsAg and HBeAg, and produces the maximum inhibition rates of 86.93 and 59.79% at 100 µg/mL on expressions of HBsAg and HBeAg, respectively^[3].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay^[2]

Cell Line:	DU-145 cells
Concentration:	0.1~100 µM
Incubation Time:	72 h
Result:	Exhibits dose-dependent inhibitory activity against DU-145 prostate cancer cells with an IC ₅₀ of 5 µM.

Cell Cycle Analysis^[2]

Cell Line:	DU-145 cells
Concentration:	5 µM
Incubation Time:	72 h
Result:	Decreased in numbers in G0/G1 phase and increased in S phase.

Apoptosis Analysis^[3]

Cell Line:	HL-7702 hepatocytes (exposure to 60 mM D-GalN for 6h)
Concentration:	1~100 µg/mL
Incubation Time:	48 h
Result:	Significantly reduced the caspase-3 and transforming growth factor β1 (TGFβ1) levels of the D-GalN-challenged hepatocytes at 10~100 µg/mL.

Cell Viability Assay^[3]

Cell Line:	HL-7702 hepatocytes (exposure to 80 mM D-GalN for 6h)
Concentration:	1~100 µg/mL
Incubation Time:	48 h
Result:	Improved significantly cell viability at concentrations of 10 to 100 µg/mL, and produced a maximum protection rate of 47.28% at 100 µg/mL.

In Vivo

4,5-Dicaffeoylquinic acid enhances the expression of GLUT2, GK, and PDX-1 protein, and effectively alleviate glycaemia and insulin resistance and enhance insulin sensitivity in type 2 diabetic mice^[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.

- J Agric Food Chem. 2021 Aug 18;69(32):9270-9286.
- J Agric Food Chem. 2019 Nov 6;67(44):12303-12312.
- Biologia. (2019) 74:1569-1577.

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REFERENCES

- [1]. Yin XL, et al. Gynura divaricata rich in 3, 5-/4, 5-dicaffeoylquinic acid and chlorogenic acid reduces islet cell apoptosis and improves pancreatic function in type 2 diabetic mice. Nutr Metab (Lond). 2018 Oct 10;15:73.
- [2]. Lodise O, et al. Inhibition of Prostate Cancer Cells by 4,5-Dicaffeoylquinic Acid through Cell Cycle Arrest. Prostate Cancer. 2019 May 23;2019:4520645.
- [3]. Shaoqing Hu, et al. Evaluation of anti-apoptotic, anti-injury and antihepatitis B virus effects of isochlorogenic acid C in vitro. Journal of Medicinal Plants Research Vol. 6(16), pp. 3199-3206 30 April, 2012
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Caution: Product has not been fully validated for medical applications. For research use only.

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