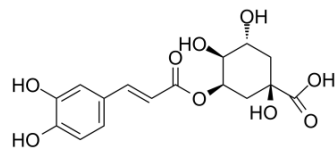


Neochlorogenic acid

Cat. No.:	HY-N0722												
CAS No.:	906-33-2												
Molecular Formula:	C ₁₆ H ₁₈ O ₉												
Molecular Weight:	354.31												
Target:	NF-κB; Interleukin Related; TNF Receptor; COX												
Pathway:	NF-κB; Immunology/Inflammation; Apoptosis												
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 : 100 mg/mL (282.24 mM; Need ultrasonic)
 H₂O : 2 mg/mL (5.64 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent		Mass		
	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

- 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
- 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
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (7.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Neochlorogenic acid is a natural polyphenolic compound found in dried fruits and other plants. Neochlorogenic acid inhibits the production of TNF-α and IL-1β. Neochlorogenic acid suppresses iNOS and COX-2 protein expression. Neochlorogenic acid also inhibits phosphorylated NF-κB p65 and p38 MAPK activation.

IC₅₀ & Target

p65	IL-1β	TNF-α	COX-2
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In Vitro

Neochlorogenic acid (NCA) shows a reduction of lipopolysaccharide (LPS)-induced NO production by suppressing iNOS and COX-2 protein expression and production of pro-inflammatory cytokines, such as TNF- α and IL-1 β , in BV2 microglia cells. In addition, phosphorylated p38 MAPK and NF- κ B p65 are also inhibited by Neochlorogenic acid in activated microglia. iNOS and COX-2 levels are increased in LPS-induced BV2 cells, but this increase is significantly inhibited after treatment with 50 and 100 μ M Neochlorogenic acid^[1].

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

PROTOCOL

Cell Assay^[1]

Mouse BV2 microglial cells are maintained in DMEM, supplemented with 5 % FBS and 1 % antibiotic-antimycotic in a humidified incubator with 5 % CO₂ at 37°C. Neochlorogenic acid and Dexamethasone as positive control are dissolved in DMSO to a final concentration of 10 mM for the stock solution. Treatments with LPS and/or Neochlorogenic acid are carried out under serum-free conditions. Effects of Neochlorogenic acid are measured on cell viability in lipopolysaccharide (LPS)-stimulated BV2 microglial cells. The cells are treated with or without LPS (4 μ g/ml) and Neochlorogenic acid (10, 50, and 100 μ M) for 24 h. Dexamethasone (10 μ M) is used for positive control. Cell viability is confirmed by the MTT assay. The medium was removed from the wells, MTT was added, and the samples were then incubated for 3 h at 37°C. The formazan crystals were dissolved by adding DMSO, and the absorbance values were measured at 540 nm using a microplate reader^[1].

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

CUSTOMER VALIDATION

- Immunology. 2020 Dec;161(4):314-324.

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REFERENCES

[1]. Kim M, et al. Neochlorogenic Acid Inhibits Lipopolysaccharide-Induced Activation and Pro-inflammatory Responses in BV2 Microglial Cells. Neurochem Res. 2015 Sep;40(9):1792-8.

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

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