Prim-O-glucosylcimifugin

Cat. No.: HY-N0635

CAS No.: 80681-45-4

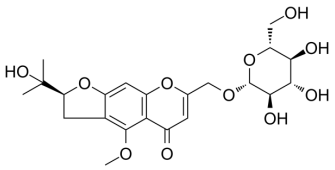
Molecular Formula: $C_{22}H_{28}O_{11}$

Molecular Weight: 468.45

Target: NO Synthase; COX

Pathway: Immunology/Inflammation

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 150 mg/mL (320.20 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1347 mL	10.6735 mL	21.3470 mL
5 mM	0.4269 mL	2.1347 mL	4.2694 mL
10 mM	0.2135 mL	1.0673 mL	2.1347 mL

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

BIOLOGICAL ACTIVITY

Description

Prim-O-glucosylcimifugin exerts anti-inflammatory effects through the inhibition of iNOS and COX-2 expression by through regulating JAK2/STAT3 signaling.

IC_{50} & Target	iNOS	COX-2

In Vitro

Prim-O-glucosylcimifugin (POG) is the highest content chromone and one of the major active constituents in Radix Saposhnikoviae (RS). Prim-O-glucosylcimifugin exerts anti-inflammatory effects in RAW 264.7 macrophages through the inhibition of iNOS and COX-2 expression by inhibiting JAK2/STAT3 signaling. The cytotoxicity of Prim-O-glucosylcimifugin is measured to LPS-activated Raw 264.7 macrophages. Raw 264.7 macrophages are treated with LPS (1 μg/mL) and increasing concentrations of Prim-O-glucosylcimifugin (15, 50, and 100 μg/mL) for 24 h and cell viability is evaluated by CCK-8 assay. Cell viability is not significantly affected after 24 h and exposure to 15-100 μg/mL Prim-O-glucosylcimifugin as compared with DMSO-treated cells (control). To investigate the anti-inflammatory effect of Prim-O-glucosylcimifugin, whether Prim-O-glucosylcimifugin can affect NO synthesis is examined in LPS-activated RAW 264.7 cells. Macrophages are treated with LPS (1 μg/mL) and various concentrations of Prim-O-glucosylcimifugin (15, 50, and 100 μg/mL) for 24 h. No concentrations are measured in the culture supernatants by Griess reaction. The concentrations of NO in the culture supernatants are markedly increased in response to LPS exposure, and Prim-O-glucosylcimifugin significantly inhibits LPS-induced NO production in a

	concentration-dependent manner[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Bronchoalveolar lavage fluid (BALF) is collected at 7 h after lipopolysaccharide (LPS) administration and thecytokine levels in BALF are measured by ELISA. The levels of TNF-α, IL-1β and IL-6 in BALF are increased dramatically compared with control group. However, pretreatment with Prime-O-glucosylcimifugin (2.5, 5 or 10 mg/kg) significantly down-regulates the levels of TNF-α, IL-1β and IL-6 in a dose-dependent manner ($P<0.05$, $P<0.01$)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	Cell Counting Kit (CCK-8) is used to determine the cytotoxic concentrations of Prim-O-glucosylcimifugin. In brief, the Raw 264.7 cells are plated at a density of 1×10^4 cells per well in a 96-well and incubated overnight. Cells are then stimulated with 1 μg/mL LPS and treated with various concentrations of Prim-O-glucosylcimifugin (15, 50, and 100 μg/mL; MedChem Express, Princeton, NJ, USA) or DMSO. After incubation at 37°C for 24 h, CCK-8 solution is added to each well and incubated for another 1 h. The absorbance is measured at 450 nm using a microplate reader[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice[1] BALB/c male mice, 8 weeks old and weighing approximately 18 to 20 g, are used. The mice are randomly divided into five groups: Control group; LPS group; LPS+Prime-O-glucosylcimifugin (2.5, 5 or 10 mg/kg bodyweight). Prime-O-glucosylcimifugin is given intraperitoneally. One hour later, LPS group and LPS+Prime-O-glucosylcimifugin group mice are given 50 μL LPS intranasally (i.n) (200 mg/L) to induce acute lung injury. Control mice are given 50 μL PBS intranasally (i.n) without LPS[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Pharmacogn Mag. 2017 Jul-Sep;13(51):378-384.

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REFERENCES

[1]. Zhou J, et al. Prim-O-glucosylcimifugin Attenuates Lipopolysaccharideinduced Inflammatory Response in RAW 264.7 Macrophages. Pharmacogn Mag. 2017 Jul-Sep;13(51):378-384.

[2]. Chen N, et al. Prime-O-glucosylcimifugin attenuates lipopolysaccharide-induced acute lung injury in mice. Int Immunopharmacol. 2013 Jun;16(2):139-47.

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