Geniposide

Cat. No.: HY-N0009

CAS No.: 24512-63-8

Molecular Formula: $C_{17}H_{24}O_{10}$

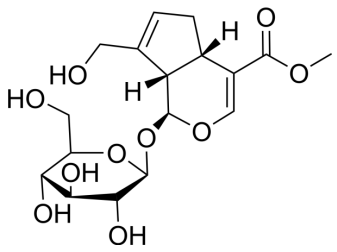
Molecular Weight: 388.37

Target: Amyloid-β; Influenza Virus

Pathway: Neuronal Signaling; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (257.49 mM; Need ultrasonic)

H_2O : 50 mg/mL (128.74 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5749 mL	12.8743 mL	25.7486 mL
5 mM	0.5150 mL	2.5749 mL	5.1497 mL
10 mM	0.2575 mL	1.2874 mL	2.5749 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (257.49 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.75 mg/mL (7.08 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.75 mg/mL (7.08 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (7.08 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Geniposide is an iridoid glucoside extracted from Gardenia jasminoidesEllis fruits; exhibits a varity of biological activities such as anti-diabetic, antioxidative, antiproliferative and neuroprotective activities.

In Vitro

Geniposide exhibits a variety of activities, such as on antithrombosis, anti-inflammation, anti-diabetes, anti-atherosclerosis,

	antidepression, healing Alzheimer's disease (AD), anti-hypertension, toxicology, and untoward reaction are summarized[1]. Geniposide markedly declines the production of IL-8, IL-1β and MCP-1 in OGD-induced brain microvascular endothelial cells, the expression of P2Y14 receptor is significantly down-regulated, the phosphorylation of RAF-1, MEK1/2, ERK1/2 are suppressed[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Geniposide (200 and 400 mg/kg) significantly decreases the blood glucose, insulin and TG levels in diabetic mice in a dose-dependent manner. This compound also decreases the expression of GP and G6Pase at mRNA and immunoreactive protein levels, as well as enzyme activity[3]. Geniposide (20.0, 40.0, or 80 mg/kg) significantly reverses the excessive, alcohol-induced elevation in both serum ALT/AST and hepatic LPO levels. Geniposide upregulates the expression of heme oxygenase-1 (HO-1) to attenuate the cell apoptosis induced by 3-morpholinosydnonimine hydrochloride (SIN-1) in primary cultured hippocampal neurons[4]. Geniposide inhibits photochemistry-induced thromboembolism model in vivo. Geniposide are very effective depressants on NF-κB by interrupting IκB degradation[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	The third passages of brain microvascular endothelial cells (BMECs) are used for the experiment. The BMECs are divided into four groups: (1)normal control group: the normal cultured BMECs without treatment; (2)OGD group: the BMECs injured by OGD according to the above method; (3) geniposide group: the OGD-injured BMECs treated with 33.2 μg/mL geniposide for 6 h; (4)PTX group: the OGD-injured BMECs administrated with 100 ng/mL PTX. PTX, known as an inhibitor of G_i-coupled receptor is used to assess the activation of $P2Y_{14}$ receptor induced by OGD in this experiment[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3]	Mice: Type 2 diabetic mice, induced by a high-fat diet and streptozotocin injection, are treated with or without geniposide for 2 weeks. Blood glucose levels are monitored by a glucometer. Insulin concentrations are analyzed by the ELISA method. Total cholesterol (TC) and triglyceride (TG) levels are measured using Labassay kits. Activities of hepatic GP and G6Pase are measured by glucose-6-phosphate dehydrogenase-coupled reaction. Real-time RT-PCR and Western blotting are used to determine the mRNA and protein levels of both enzymes[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biomed Pharmacother. November 2022, 113829.
- Phytother Res. 2022 Dec 14.
- Gene. 2023 Jun 11;147564.
- Exp Ther Med. August 31, 2021.
- J Orthop Surg Res. 2024 Mar 11;19(1):179.

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REFERENCES

[1]. Liu H, et al. Fructus Gardenia (Gardenia jasminoides J. Ellis) phytochemistry, pharmacology ofcardiovascular, and safety with the perspective of new drugs development. J Asian Nat Prod Res. 2013;15(1):94-110.

[2]. Li F, et al. Geniposide attenuates inflammatory response by suppressing P2Y14 receptor and downstream ERK1/2 signaling pathway in oxygen and glucose deprivation-induced brain microvascular endothelial cells. J Ethnopharmacol. 2016 Jun 5;185:77-86.

[3]. Wu SY, et al. Effect of geniposide, a hypoglycemic glucoside, on hepatic regulating enzymes in diabetic mice induced by a high-fat diet and streptozotocin. Acta Pharmacol Sin. 2009 Feb;30(2):202-8.

[4]. Wang J, et al. Geniposide protects against acute alcohol-induced liver injury in mice via up-regulating the expression of the main antioxidant enzymes. Can J Physiol Pharmacol. 2015 Apr;93(4):261-7.

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