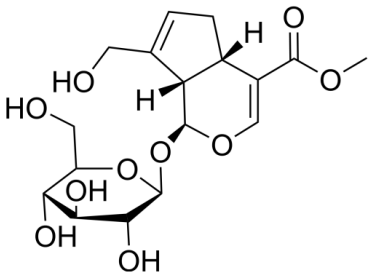
Data Sheet

Product Name:	Geniposide
Cat. No.:	CS-1533
CAS No.:	24512-63-8
Molecular Formula:	$C_{17}H_{24}O_{10}$
Molecular Weight:	388.37
Target:	Amyloid-β; Influenza Virus
Pathway:	Anti-infection; Neuronal Signaling
Solubility:	DMSO : 100 mg/mL (ultrasonic);H_2O : 50 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Geniposide is an iridoid glucoside extracted from ***Gardenia jasminoides***Ellis 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]. ***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].

PROTOCOL (Extracted from published papers and Only for reference)

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]. **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].

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.

CAIndexNames:

Cyclopenta[c]pyran-4-carboxylic acid, 1-(β-D-glucopyranosyloxy)-1,4a,5,7a-tetrahydro-7-(hydroxymethyl)-, methyl ester, (1S,4aS,7aS)-

SMILES:

O[C@@H]1[C@@H](CO)O[C@@H](O[C@H]2[C@@]3([H])[C@@](CC=C3CO)([H])C(C(OC)=O)=CO2)[C@H](O)[C@H]1O

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