Data Sheet (Cat.No.T2212)

TargetMol

Geniposide

Chemical Properties

CAS No. : 24512-63-8

Formula: C17H24O10

Molecular Weight: 388.37

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Geniposide is an iridoid glycoside with a variety of biological activities including neuroprotective, anti-diabetic, antiproliferative, and antioxidative activity. Geniposide has been shown to regulate Nrf2 translocation.
Targets(IC50)	Beta Amyloid,Influenza Virus
In vitro	Geniposide demonstrates multifaceted bioactivities, including antithrombotic, anti-inflammatory, antidiabetic, anti-atherosclerotic, antidepressant effects, and therapeutic potential for Alzheimer's disease (AD), anti-hypertensive, and toxicological effects, alongside managing adverse reactions[1]. It significantly reduces IL-8, IL-1β, and MCP-1 production in OGD-induced brain microvascular endothelial cells, markedly downregulates P2Y14 receptor expression, and inhibits the phosphorylation of RAF-1, MEK1/2, and ERK1/2[2].
In vivo	Geniposide, administered at doses of 200 and 400 mg/kg, has been observed to significantly reduce blood glucose, insulin, and triglyceride (TG) levels in a dose-dependent manner in diabetic mice. Additionally, it diminishes the expression and enzymatic activity of glucose-6-phosphatase (G6Pase) and glycogen phosphorylase (GP) at both mRNA and protein levels. At dosages of 20.0, 40.0, or 80 mg/kg, geniposide effectively counters the excessive elevation of serum alanine transaminase/aspartate transaminase (ALT/AST) and hepatic lipid peroxidation (LPO) levels induced by alcohol, signifying its potent hepatoprotective properties. Furthermore, it enhances the expression of heme oxygenase-1 (HO-1), mitigating cell apoptosis in primary cultured hippocampal neurons caused by 3-morpholinosydnonimine hydrochloride (SIN-1). In addition to its neuroprotective and hepatoprotective effects, geniposide exhibits anti-thrombotic activity in a photochemistry-induced thromboembolism model in vivo and acts as an effective inhibitor of Nuclear Factor kappa B (NF-κB) activity by preventing IκB degradation.
Cell Research	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 Gi-coupled receptor is used to assess the activation of P2Y14 receptor induced by OGD in this experiment[2].

Solubility Information

Solubility	DMSO: 247.50 mg/mL (637.28 mM),Sonication is recommended. H2O: 40.00 mg/mL (102.99 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.00 mg/mL (5.15 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5749 mL	12.8743 mL	25.7486 mL
5 mM	0.515 mL	2.5749 mL	5.1497 mL
10 mM	0.2575 mL	1.2874 mL	2.5749 mL
50 mM	0.0515 mL	0.2575 mL	0.515 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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.
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.
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.
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.