

Gentianine

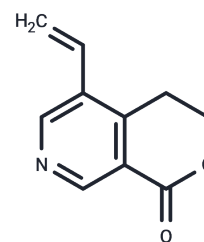
Chemical Properties

CAS No. : 439-89-4

Formula: C₁₀H₉NO₂

Molecular Weight: 175.18

Storage: Store at low temperature, Keep away from direct sunlight, Keep away from moisture
 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	Gentianine is an effective Swertiamarin derivative, which has anti-diabetic, antipsychotic, anti-inflammatory, hypotensive, diuretic and other effects, and has the potential to be developed into a safe antihypertensive drug.
Targets(IC50)	PPAR,TNF,transporter
In vitro	Gentianine significantly decreased TLR4, MyD88 and NF-κB expression, as well as NO production and inflammatory cytokines release. Gentianine co-treatment with TLR4 inhibitor, further decreased TLR4, MyD88 and NF-κB expression, NO production, as well as the inflammatory cytokines. Taken together, Gentianine could be used as a potential anti-ischemic stroke agent by suppressing inflammatory responses via TLR4/NF-κB signaling pathway.[2] Treatment with Gentianine significantly increased adipogenesis, which was associated with a significant increase in the mRNA expression of PPAR-γ, GLUT-4 and adiponectin[1]
In vivo	Effect of Gentianine on tMCAO mouse demonstrated that Gentianine significantly ameliorated tMCAO induced ischemic injury by decreasing brain infarct volume and increasing the neurological score and upper limb muscle strength. Meanwhile, Gentianine significantly decreased the release of serum inflammatory cytokines. Machine learning enables that Gentianine might had anti-ischemic stroke effect through the TLR4/NF-κB signaling pathway. [2]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.7084 mL	28.5421 mL	57.0841 mL
5 mM	1.1417 mL	5.7084 mL	11.4168 mL
10 mM	0.5708 mL	2.8542 mL	5.7084 mL
50 mM	0.1142 mL	0.5708 mL	1.1417 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

Vaidya H, et al. Anti-diabetic activity of swertiamarin is due to an active metabolite, gentianine, that upregulates PPAR- γ gene expression in 3T3-L1 cells. *Phytother Res.* 2013;27(4):624-627.

Wang N, et al. Machine learning enables discovery of Gentianine targeting TLR4/NF- κ B pathway to repair ischemic stroke injury. *Pharmacol Res.* 2021;173:105913.

Kwak WJ, et al. Effects of gentianine on the production of pro-inflammatory cytokines in male Sprague-Dawley rats treated with lipopolysaccharide (LPS). *Biol Pharm Bull.* 2005;28(4):750-753.

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