Calycosin-7-O-β-D-glucoside

Cat. No.: HY-N0520

CAS No.: 20633-67-4

Molecular Formula: $C_{22}H_{22}O_{10}$

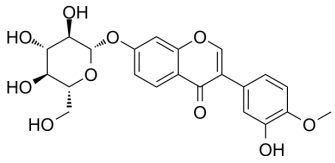
Molecular Weight: 446.4

Target: Reactive Oxygen Species

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (224.01 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2401 mL	11.2007 mL	22.4014 mL
5 mM	0.4480 mL	2.2401 mL	4.4803 mL
10 mM	0.2240 mL	1.1201 mL	2.2401 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Calycosin-7-O-β-D-glucoside is an isoflavone isolated from Astragali Radix. Calycosin-7-O-β-D-glucoside has variety of biological activities, such as neuroprotective, cardioprotection, anti-inflammation, and antioxidative stress effects[1][2].

In Vitro

Calycosin-7-O-β-D-glucoside (2 μM; 6 hours) remarkably inhibits the expression and activities of MMPs, and secures the expression of cav-1 and tight junction proteins in the microvessels isolated from ischemic rat cortex[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Calycosin-7-O-β-D-glucoside (intraperitoneal injection; 26.8 mg/kg; 14 days) significantly reduces infarct volume, histological damage and BBB permeability in the in vivo MCAO ischemia-reperfusion rat model[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Middle cerebral artery occlusion (MCAO) male adult Sprague-Daweley rats[1]
Dosage:	26.8 mg/kg
Administration:	Intraperitoneal injection; 26.8 mg/kg; 14 days
Result:	Exhibited neuroprotective effects in rats.

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2021 Jan;11(1):143-155.

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REFERENCES

[1]. Shuping Fu, et al. Calycosin-7-O-β-D-glucoside regulates nitric oxide /caveolin-1/matrix metalloproteinases pathway and protects blood-brain barrier integrity in experimental cerebral ischemia-reperfusion injury. J Ethnopharmacol. 2014 Aug 8;155(1):692-701.

[2]. Xiangli Yan, et al. Calycosin-7- O- β- D-glucoside Attenuates OGD/R-Induced Damage by Preventing Oxidative Stress and Neuronal Apoptosis via the SIRT1/FOXO1/PGC-1 α Pathway in HT22 Cells. Neural Plast. 2019 Dec 1;2019:8798069.

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