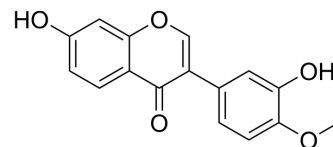


## Calycosin

Cat. No.:	HY-N0519		
CAS No.:	20575-57-9		
Molecular Formula:	C <sub>16</sub> H <sub>12</sub> O <sub>5</sub>		
Molecular Weight:	284.26		
Target:	Apoptosis		
Pathway:	Apoptosis		
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 (351.79 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.5179 mL	17.5895 mL	35.1791 mL
	5 mM	0.7036 mL	3.5179 mL	7.0358 mL
	10 mM	0.3518 mL	1.7590 mL	3.5179 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Calycosin is a compound that can be isolated from Radix Astragali. Calycosin has strong antioxidant, anti-inflammatory and apoptosis-modulating effects. Calycosin can be used for the research of ovarian cancer and breast cancer<sup>[1][2]</sup>.

#### In Vitro

Calycosin (0-100 μM, 24-72 h) inhibits the proliferation of SKOV3 cells in a dose- and time-dependent manner<sup>[1]</sup>. Calycosin (25-100 μM, 48 h) upregulates the Bax/Bcl-2 ratio and the expression of cleaved caspase-3 and cleaved caspase-9 in a dose-dependent manner in SKOV3 cells<sup>[1]</sup>.

Calycosin (0-16  $\mu$ M, 0-240 min) stimulates rapid activation of ERK1/2 in a time- and dose-dependent manner in MCF-7 cells<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.  
Cell Proliferation Assay<sup>[2]</sup>

Cell Line:	MCF-7 cells
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Concentration:	2-32 $\mu$ M
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Incubation Time:	48 h
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Result:	Increased the MCF-7 cell number at the doses of 2-8 $\mu$ M. Inhibited the proliferation of MCF-7 cells at the doses of 32 $\mu$ M.
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### In Vivo

Calycosin (1-4 mg/kg, i.p., daily, 20 days) inhibits the protein expression of ER $\alpha$  in OVX mice at the doses of 1 mg/kg<sup>[2]</sup>.  
Calycosin (7.5-30 mg/kg, i.g., daily, 3 days) has a neuroprotective effect against cerebral ischemia/reperfusion injury in adult male Sprague-Dawley rats<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult Male Sprague-Dawley Rats <sup>[3]</sup>
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Dosage:	7.5-30 mg/kg
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Administration:	i.g. daily, 3 days
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Result:	Improved neurological deficit and infarct volum. Reduced the content of malondialdehyde (MDA), protein carbonyl and reactive oxygen species (ROS). Increased the activities of superoxide dismutase (SOD), catalase and glutathione peroxidase (GSH-Px) in a dose-dependent manner. Inhibited the expression of 4-Hydroxy-2-nonenal (4-HNE).
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## CUSTOMER VALIDATION

- Acta Pharm Sin B. 2021 Jan;11(1):143-155.
- Br J Pharmacol. 2018 May;175(9):1439-1450.
- J Funct Foods. 2024 Apr, 115, 106087.
- Drug Dev Res. 2022 Sep 7.
- Pharm Biol. 2022 Dec;60(1):990-996.

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## REFERENCES

- [1]. Guo C, et al. Neuroprotective effect of calycosin on cerebral ischemia and reperfusion injury in rats. *J Ethnopharmacol.* 2012 Dec 18;144(3):768-74.
- [2]. Zhou Y, et al. Calycosin induces apoptosis in human ovarian cancer SKOV3 cells by activating caspases and Bcl-2 family proteins. *Tumour Biol.* 2015 Feb 12.
- [3]. Chen J, et al. Calycosin promotes proliferation of estrogen receptor-positive cells via estrogen receptors and ERK1/2 activation in vitro and in vivo. *Cancer Lett.* 2011 Sep 28;308(2):144-51.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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