Calycosin

Cat. No.: HY-N0519

CAS No.: 20575-57-9

Molecular Formula: $C_{16}H_{12}O_5$

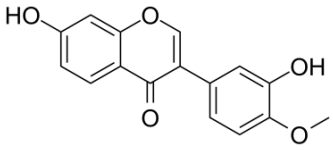
Molecular Weight: 284.26

Target: Apoptosis

Pathway: Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (351.79 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	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

1. 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
2. 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
3. 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 (Cyclosin) is a natural active compound with anti-oxidative and anti-inflammation activity.IC50 value:Target: in vitro: calycosin had obvious anti-proliferation effects on SKOV3 cells in a dose- and time-dependent manner. calycosin up-regulated the Bax/Bcl-2 ratio and cleaved caspase-3, cleaved caspase-9 expression in a dose-dependent manner. In summary, calycosin might exert anti-growth and induce-apoptosis activity against ovarian cancer SKOV3 cells through activating caspases and Bcl-2 family proteins, therefore presenting as a promising therapeutic agent for the treatment of ovarian cancer [1]. Both calycosin and genistein inhibited proliferation and induced apoptosis in MCF-7 breast cancer cells,

especially after treatment with calycosin. Treatment of MCF-7 cells with calycosin or genistein resulted in decreased phosphorylation of Akt, and decreased expression of its downstream target, HOTAIR [2]. incubation of calycosin resulted in enhanced expression ERβ in MCF-7 and T-47D cells, rather than MDA-231 and MDA-435 cells. Moreover, with the upregulation of ERβ, successive changes in downstream signaling pathways were found, including inactivation of insulin-like growth factor 1 receptor (IGF-1R), then stimulation of p38 MAPK and suppression of the serine/threonine kinase (Akt), and finally poly(ADP-ribose) polymerase 1 (PARP-1) cleavage [3].in vivo: calycosin stimulated a dramatic increase in uterine weight and downregulated the level of ERα protein in OVX mice [4].

CUSTOMER VALIDATION

- Br J Pharmacol. 2018 May;175(9):1439-1450.
- Acta Pharm Sin B. 2020 Jul.

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REFERENCES

[1]. 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.

[2]. Chen J, et al. Calycosin and genistein induce apoptosis by inactivation of HOTAIR/p-Akt signaling pathway in human breast cancer MCF-7 cells. Cell Physiol Biochem. 2015;35(2):722-8.

[3]. Chen J, et al. Calycosin suppresses breast cancer cell growth via ERβ-dependent regulation of IGF-1R, p38 MAPK and PI3K/Akt pathways. PLoS One. 2014 Mar 11;9(3):e91245.

[4]. 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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