Genistin

Cat. No.: HY-N0595

CAS No.: 529-59-9

Molecular Formula: $C_{21}H_{20}O_{10}$

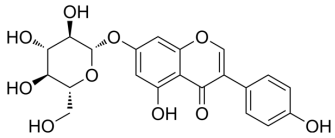
Molecular Weight: 432.38

Target: Estrogen Receptor/ERR; Apoptosis

Pathway: Vitamin D Related/Nuclear Receptor; 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 (231.28 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3128 mL	11.5639 mL	23.1278 mL
5 mM	0.4626 mL	2.3128 mL	4.6256 mL
10 mM	0.2313 mL	1.1564 mL	2.3128 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 (5.78 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.78 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.78 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Genistin (Genistine), an isoflavone belonging to the phytoestrogen family, is a potent anti-adipogenic and anti-lipogenic agent. Genistin attenuates cellular growth and promotes apoptotic cell death breast cancer cells through modulation of ERalpha signaling pathway[1][2][3].

In Vitro

Genistin causes negative regulation of ERα. Genistin also effectively down-modulates ER nuclear translocation as well DNA binding activity in breast cancer cells. Moreover, GS effectively induced apoptosis and suppressed levels of oncogenic

	markers in MCF-7 cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	M14 human melanoma cells are used and grown in RPMI containing 10% fetal calf serum, 100 U/mL penicillin, 100 μg/mL streptomycin, and 25 μg/mL fungizone. After 24 h of incubation at 37°C under a humidified 5% carbon dioxide to allow cell attachment, the cells are treated with different concentrations (12, 25, 50, and 100 μM) of Genistin and daidzin, and incubated for 72 h under the same conditions[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	Sprague-Dawley rats (male, 250 to 300 g) are used to establish the I/R injury animal model and used in this experiment. Rats are randomly apportioned in equal animals (n=10) to five experimental groups: (1) sham group: rats are subjected to the entire surgical procedure but without the induction of I/R; (2) model group: I/R injury animal model is constructed by left anterior descending coronary artery (LAD) ligation for 30 min, and then the LAD is allowed 1 h reperfusion; and (3) three Genistin-treated groups: different doses (20, 40, and 60 mg/kg body weight, resp.) of Genistin dissolved in 0.5% sodium carboxyl methyl cellulose (CMC-Na) solution are given intragastrically for 5 days before operation[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Med Virol. 2022 Nov 1.
- Front Cell Dev Biol. 2021 Jun 11;9:684393.
- Genomics. 2021 Jun 7;S0888-7543(21)00220-2.

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REFERENCES

[1]. Choi YR, et al. Genistin: A Novel Potent Anti-Adipogenic and Anti-Lipogenic Agent. Molecules. 2020;25(9):2042. Published 2020 Apr 27.

[2]. Liang Y, et al. A Comprehensive Screening and Identification of Genistin Metabolites in Rats Based on Multiple Metabolite Templates Combined with UHPLC-HRMS Analysis. Molecules. 2018;23(8):1862. Published 2018 Jul 26.

[3]. Hwang ST, et al. Genistin attenuates cellular growth and promotes apoptotic cell death breast cancer cells through modulation of ERalpha signaling pathway [published online ahead of print, 2020 Oct 16]. Life Sci. 2020;263:118594.

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