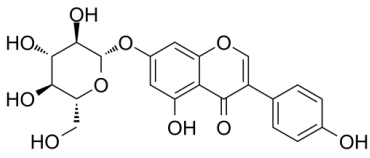
Data Sheet

Product Name:	Genistin
Cat. No.:	CS-4240
CAS No.:	529-59-9
Molecular Formula:	$C_{21}H_{20}O_{10}$
Molecular Weight:	432.38
Target:	Apoptosis; Estrogen Receptor/ERR
Pathway:	Apoptosis; Others
Solubility:	DMSO : ≥ 100 mg/mL (231.28 mM)



BIOLOGICAL ACTIVITY:

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].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: Stock solution of Genistin is prepared in DMSO.[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]. **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].

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.

CAIndexNames:

4H-1-Benzopyran-4-one, 7-(β-D-glucopyranosyloxy)-5-hydroxy-3-(4-hydroxyphenyl)-

SMILES:

O=C(C(C1=CC=C(O)C=C1)=COC2=CC(O[C@@H]([C@@H](O)[C@@H]3O)O)O[C@@H]3CO)=C4)C2=C4O

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