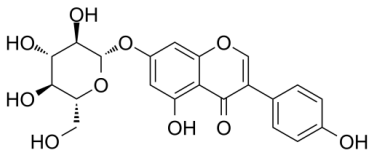
Data Sheet

Product Name:	Genistin
Cat. No.:	CS-4240
CAS No.:	529-59-9
Molecular Formula:	C21H20O10
Molecular Weight:	432.38
Target:	Autophagy
Pathway:	Autophagy
Solubility:	DMSO : ≥ 43 mg/mL (99.45 mM)



BIOLOGICAL ACTIVITY:

Genistin is the major isoflavonoid of soybeans and soy products. **In Vitro:** Genistin is the major isoflavonoid of soybeans and soy products. Genistin shows a dose-dependent superoxide scavenging effect and exhibits major effect at 200 μM, corresponding in activity to 0.08 U/mg protein superoxide dismutase (SOD). Results demonstrate that Genistin exhibits a significantly ($P<0.01$) and a dose-dependent inhibitory effect on the human cancer cell examined, and at higher concentration (100 μM), the cell viability is 59%. Genistin also induces a significant and dose-dependent increase in ROS formation when compare with the untreated control[1]. **In Vivo:** Myocardial infarct is markedly diminished by pretreatment with Genistin, particularly at the high dose. After 1 h of reperfusion, preconditioning with Genistin at dosages of 20 to 60 mg/kg significantly attenuats the release of lactate dehydrogenase (LDH), creatine kinase (CK) in a dose-dependent manner compare with the I/R group. Results show that the level of malondialdehyde (MDA) is decreased and the activities of superoxide dismutase (SOD) and catalase (CAT) are increased as well as an increased glutathione (GSH) level in a dose-dependent manner by Genistin treatment in I/R. Pretreatment with Genistin (20, 40 and 60 mg/kg) also prevents the expression of P2X7, p-IκBα, and p-NF-κB p65 compare with the model group[2].

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]. Russo A, et al. Genistin inhibits UV light-induced plasmid DNA damage and cell growth in human melanoma cells. J Nutr Biochem. 2006 Feb;17(2):103-8.

[2]. Gu M, et al. Cardioprotective Effects of Genistin in Rat Myocardial Ischemia-Reperfusion Injury Studies by Regulation of P2X7/NF-κB Pathway. Evid Based Complement Alternat Med. 2016;2016:5381290.

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

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

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