

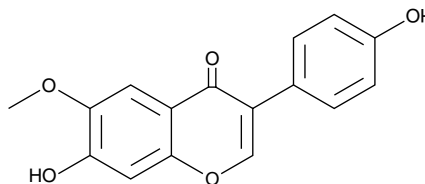
Product Information



Glycitein

Item No. 14162

CAS Registry No.: 40957-83-3
Formal Name: 7-hydroxy-3-(4-hydroxyphenyl)-6-methoxy-4H-1-benzopyran-4-one
MF: C₁₆H₁₂O₅
FW: 284.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 232, 261, 319 nm



Laboratory Procedures

For long term storage, we suggest that glycitein be stored as supplied at -20°C. It should be stable for at least two years. Glycitein is supplied as a crystalline solid. A stock solution may be made by dissolving the glycitein in the solvent of choice. Glycitein is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of glycitein in these solvents is approximately 0.5 mg/ml.

Glycitein is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Glycitein is an O-methylated isoflavone that comprises 5-10% of the total isoflavones in soy food products. This phytoestrogen is reported to have weak estrogenic activity, displacing estradiol binding at the estrogen receptor *in vitro* with an IC₅₀ value of 3.94 μM.¹ It suppresses the proliferation of osteoblasts and promotes differentiation from its progenitor.² It has also been used to attenuate proliferation (10 μM) of aortic smooth muscle cells related to atherosclerotic vascular change in stroke-prone hypertensive rats and to protect against beta amyloid (Aβ)-induced toxicity and oxidative stress (100 μg/ml) in *C. elegans* expressing human Aβ.^{3,4}

References

1. Song, T.T., Hendrich, S., and Murphy, P.A. Estrogenic activity of glycitein, a soy isoflavone. *J. Agric. Food Chem.* **47**, 1607-1610 (1999).
2. Yoshida, H., Teramoto, T., Ikeda, K., *et al.* Glycitein effect on suppressing the proliferation and stimulating the differentiation of osteoblastic MC3T3-E1 cells. *Biosci. Biotechnol. Biochem.* **65**(5), 1211-1213 (2001).
3. Pan, W., Ikeda, K., Takebe, M., *et al.* Genistein, daidzein and glycitein inhibit growth and DNA synthesis of aortic smooth muscle cells from stroke-prone spontaneously hypertensive rats. *J. Nutr.* **131**(4), 1154-1158 (2001).
4. Gutierrez-Zepeda, A., Santell, R., Wu, Z., *et al.* Soy isoflavone glycitein protects against beta amyloid-induced toxicity and oxidative stress in transgenic *Caenorhabditis elegans*. *BMC Neurosci.* **6**(54), (2005).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14162

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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