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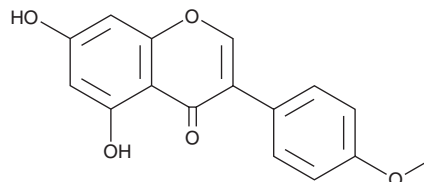
PRODUCT INFORMATION



Biochanin A

Item No. 16476

CAS Registry No.: 491-80-5
Formal Name: 5,7-dihydroxy-3-(4-methoxyphenyl)-4H-1-benzopyran-4-one
Synonyms: 4'-methyl Genistein, 5,7-dihydroxy-4'-Methoxyisoflavone, NSC 123538
MF: C₁₆H₁₂O₅
FW: 284.3
Purity: ≥98%
UV/Vis.: λ_{max}: 262 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Biochanin A is supplied as a crystalline solid. A stock solution may be made by dissolving the biochanin A in the solvent of choice. Biochanin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of biochanin A in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Biochanin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, biochanin A should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Biochanin A has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Biochanin A is a natural isoflavone with diverse biological actions, most notably as a phytoestrogen. It can affect hormone levels by inhibiting 5 α -reductase and 17 β -hydroxysteroid dehydrogenase or altering aromatase (CYP19A1) activity.^{1,2} Also known as 4'-methyl genistein, biochanin A can be metabolized *in vivo* to genistein (Item No. 10005167), another phytoestrogen with diverse effects.³ Biochanin A also intersects with signaling through peroxisome proliferator-activated receptors (PPARs), as it activates PPAR γ (EC₅₀ = 19 μ M) and has also been shown to activate a PPAR α promoter.⁴ Moreover, it increases the expression of the PPAR γ coactivator PGC-1 α , promoting mitochondrial biogenesis.⁵ Biochanin A also inhibits fatty acid amide hydrolase (IC₅₀ = 2.4 μ M) and acts as an agonist of the aryl hydrocarbon receptor (EC₅₀ = 0.25 μ M).^{6,7}

References

1. Evans, B.A., Griffiths, K., and Morton, M.S. *J. Endocrinol.* **147**(2), 295-302 (1995).
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3. Patisaul, H.B. and Jefferson, W. *Front. Neuroendocrinol.* **31**(4), 400-419 (2010).
4. Wang, L., Waltenberger, B., Pferschy-Wenzig, E.M., et al. *Biochem. Pharmacol.* **92**(1), 73-89 (2014).
5. Rasbach, K.A. and Schnellmann, R.G. *J. Pharmacol. Exp. Ther.* **325**(2), 536-543 (2008).
6. Thors, L., Burston, J.J., Alter, B.J., et al. *Br. J. Pharmacol.* **160**(3), 549-560 (2010).
7. Medjakovic, S. and Jungbauer, A. *J. Steroid Biochem. Mol. Biol.* **108**(1-2), 171-177 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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