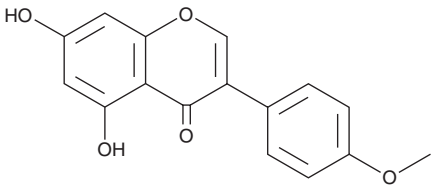
# PRODUCT INFORMATION

## 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:** $C_{16}H_{12}O_5$
**FW:** 284.3
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 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 5α-reductase and 17β-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 PPARγ ($EC_{50}$ = 19 µM) and has also been shown to activate a PPARα promoter.[4] Moreover, it increases the expression of the PPARγ coactivator PGC-1α, promoting mitochondrial biogenesis.[5] Biochanin A also inhibits fatty acid amide hydrolase ($IC_{50}$ = 2.4 µM) and acts as an agonist of the aryl hydrocarbon receptor ($EC_{50}$ = 0.25 µM).[6,7]

### References


1. Evans, B.A., Griffiths, K., and Morton, M.S. *J. Endocrinol.* **147(2)**, 295-302 (1995).
2. Khan, S.I., Zhao, J., Khan, I.A., *et al. Reprod. Biol. Endocrinol.* **9:91** (2011).
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).





**CAYMAN CHEMICAL**
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
**PHONE:** [800] 364-9897
[734] 971-3335
**FAX:** [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM