

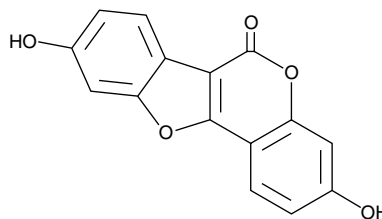
Product Information



Coumestrol

Item No. 11730

CAS Registry No.: 479-13-0
Formal Name: 3,9-dihydroxy-6H-benzofuro[3,2-c][1]benzopyran-6-one
Synonym: NSC 22842
MF: C₁₅H₈O₅
FW: 268.2
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 244, 305, 344 nm



Laboratory Procedures

For long term storage, we suggest that coumestrol be stored as supplied at -20°C. It should be stable for at least two years.

Coumestrol is supplied as a crystalline solid. A stock solution may be made by dissolving the coumestrol in the solvent of choice. Coumestrol is soluble in DMSO, which should be purged with an inert gas. The solubility of coumestrol in DMSO is approximately 25 mg/ml.

Coumestrol 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.

Coumestrol is a phytoestrogen that occurs naturally in soybeans, spinach, and clover. It competitively (*vs.* 17β-estradiol, Item No. 10006315) binds the estrogen receptors ERα (IC₅₀ = 11 nM) and ERβ (IC₅₀ = 2 nM) and can induce ER-dependent gene expression in isolated cells.^{1,2} Coumestrol is also a weak antagonist of pregnane X receptor (IC₅₀ = 12 μM) as well as a potential inverse agonist of the constitutive androstane receptor (EC₅₀ = 30 μM).³

References

1. Chen, H.Y., Dykstra, K.D., Birzin, E.T., *et al.* Estrogen receptor ligands. Part 1: The discovery of flavanoids with subtype selectivity. *Bioorg. Med. Chem. Lett.* **14**(6), 1417-1421 (2004).
2. Hopert, A.-C., Beyer, A., Frank, K., *et al.* Characterization of estrogenicity of phytoestrogens in an endometrial-derived experimental model. *Environ. Health Perspect.* **106**(9), 581-586 (1998).
3. Wang, H., Li, H., Moore, L.B., *et al.* The phytoestrogen coumestrol is a naturally occurring antagonist of the human pregnane X receptor. *Mol. Endocrinol.* **22**(4), 838-857 (2008).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11730

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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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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