

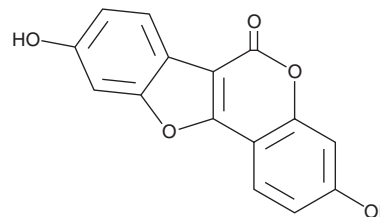
# PRODUCT INFORMATION



## 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:  $C_{15}H_8O_5$   
FW: 268.2  
Purity:  $\geq 98\%$   
UV/Vis.:  $\lambda_{max}$ : 244, 305, 344 nm  
Supplied as: A crystalline solid  
Storage:  $-20^{\circ}\text{C}$   
Stability:  $\geq 4$  years



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

### Laboratory Procedures

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

### Description

Coumestrol is a phytoestrogen that occurs naturally in soybeans, spinach, and clover. It competitively (vs.  $17\beta$ -estradiol, Item No. 10006315) binds the estrogen receptors ER $\alpha$  ( $IC_{50}$  = 11 nM) and ER $\beta$  ( $IC_{50}$  = 2 nM) and can induce ER-dependent gene expression in isolated cells.<sup>1,2</sup> Coumestrol is also a weak antagonist of pregnane X receptor ( $IC_{50}$  = 12  $\mu\text{M}$ ) as well as a potential inverse agonist of the constitutive androstane receptor ( $EC_{50}$  = 30  $\mu\text{M}$ ).<sup>3</sup>

### 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).

#### 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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