

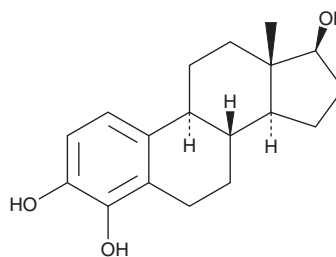
# PRODUCT INFORMATION



## 4-Hydroxyestradiol

Item No. 31508

**CAS Registry No.:** 5976-61-4  
**Formal Name:** (17 $\beta$ )-estra-1,3,5(10)-triene-3,4,17-triol  
**Synonym:** 4-Hydroxy-17 $\beta$ -estradiol  
**MF:** C<sub>18</sub>H<sub>24</sub>O<sub>3</sub>  
**FW:** 288.4  
**Purity:**  $\geq$ 98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

4-Hydroxyestradiol is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-hydroxyestradiol in the solvent of choice, which should be purged with an inert gas. 4-Hydroxyestradiol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-hydroxyestradiol in ethanol and DMSO is approximately 25 mg/ml and approximately 20 mg/ml in DMF.

4-Hydroxyestradiol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-hydroxyestradiol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 4-Hydroxyestradiol has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

4-Hydroxyestradiol is a catechol estrogen and minor metabolite of estrogen.<sup>1,2</sup> 4-Hydroxyestradiol is formed from estrogen by the cytochrome P450 (CYP) isoform CYP1B1.<sup>2</sup> Production of 4-hydroxyestradiol is increased in microsomes prepared from human mammary adenocarcinoma and fibroadenoma microsomes compared with microsomes prepared from non-cancerous tissues.<sup>1</sup> 4-Hydroxyestradiol (25 mg/animal) induces renal tumor formation in male hamsters.<sup>3</sup>

### References

1. Liehr, J.C. and Ricci, M.J. 4-Hydroxylation of estrogens as marker of human mammary tumors. *Proc. Natl. Acad. Sci. USA* **93**(8), 3294-3296 (1996).
2. Yager, J.D. and Liehr, J.G. Molecular mechanisms of estrogen carcinogenesis. *Annu. Rev. Pharmacol. Toxicol.* **36**, 203-232 (1996).
3. Liehr, J.G., Fang, W.F., Sirbasku, D.A., et al. Carcinogenicity of catechol estrogens in Syrian hamsters. *J. Steroid Biochem.* **24**(1), 353-356 (1986).

#### 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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