

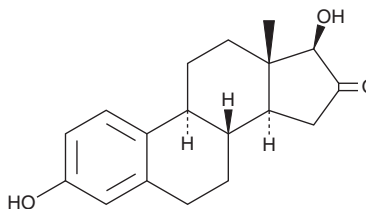
# PRODUCT INFORMATION



## 16-Ketoestradiol

Item No. 36033

**CAS Registry No.:** 566-75-6  
**Formal Name:** 3,17 $\beta$ -dihydroxy-estra-1,3,5(10)-trien-16-one  
**Synonyms:** 16-keto E<sub>2</sub>, NSC 51169, 16-Oxoestradiol  
**MF:** C<sub>18</sub>H<sub>22</sub>O<sub>3</sub>  
**FW:** 286.4  
**Purity:**  $\geq$ 95%  
**Supplied as:** A 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

16-Ketoestradiol is supplied as a solid. A stock solution may be made by dissolving the 16-ketoestradiol in the solvent of choice, which should be purged with an inert gas. 16-Ketoestradiol is slightly soluble in ethanol, methanol, and DMSO.

### Description

16-Ketoestradiol is an active metabolite of the endogenous estrogen estrone (Item No. 10006485).<sup>1</sup> It is formed from estrone *via* an estriol (Item No. 10006484) or a 16-epiestriol (Item No. 33455) intermediate by oxidation of the C-16 hydroxyl. 16-Ketoestradiol binds to estrogen receptor  $\alpha$  (ER $\alpha$ ) and ER $\beta$  with IC<sub>50</sub> values of 112.2 and 50.1 nM for the human receptors, respectively.<sup>2</sup> Intravaginal administration of 16-ketoestradiol increases vaginal epithelial thickness, stratification, and cornification in mice, indicating antiestrogenic activity.<sup>3</sup>

### References

1. Brinton, L.A., Trabert, B., Anderson, G.L., *et al.* Serum estrogens and estrogen metabolites and endometrial cancer risk among postmenopausal women. *Cancer Epidemiol. Biomarkers Prev.* **25(7)**, 1081-1089 (2016).
2. Zhu, B.T., Han, G.-Z., Shim, J.-Y., *et al.* Quantitative structure-activity relationship of various endogenous estrogen metabolites for human estrogen receptor  $\alpha$  and  $\beta$  subtypes: Insights into the structural determinants favoring a differential subtype binding. *Endocrinology* **147(9)**, 4132-4150 (2006).
3. Martin, L. Dimethylstilbestrol and 16-oxo-estradiol: Anti-estrogens or estrogens? *Steroids* **13(1)**, 1-10 (1969).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/16/2022

#### 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