

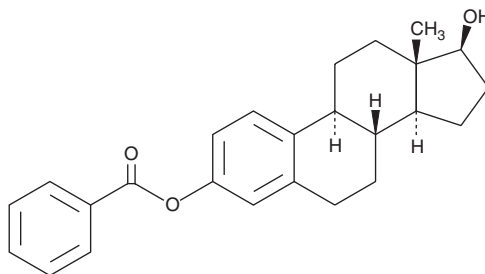
# Product Information



## Estradiol Benzoate

Catalog No. 10006487

<b>CAS Registry No.:</b>	50-50-0
<b>Formal Name:</b>	estra-1,3,5(10)-triene-3,17 $\beta$ -diol 3-benzoate
<b>Synonyms:</b>	$\beta$ -Estradiol benzoate, 17 $\beta$ -Estradiol 3-benzoate, 17 $\beta$ -Oestradiol benzoate
<b>MF:</b>	C <sub>25</sub> H <sub>28</sub> O <sub>3</sub>
<b>FW:</b>	376.5
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥2 years at -20°C
<b>Supplied as:</b>	A crystalline solid



### Laboratory Procedures

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

Estradiol benzoate is supplied as a crystalline solid. A stock solution may be made by dissolving the estradiol benzoate in an organic solvent purged with an inert gas. Estradiol benzoate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of estradiol benzoate in these solvents is 2 mg/ml in ethanol and 30 mg/ml in DMSO and DMF.

Estradiol benzoate is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that 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.

Estrogens direct the development of the female genotype in embryogenesis and at puberty. Estradiol is the major estrogen secreted by the premenopausal ovary.<sup>1,2</sup> Estradiol benzoate is an estradiol analog which contains a benzyl ester at the C-3 position. It is often used in combination with a progestin to induce estrus in domestic livestock.<sup>3</sup> Estradiol benzoate binds to the human and murine estrogen receptor  $\alpha$  (ER $\alpha$ ), and chicken ER with IC<sub>50</sub> values in the range of 22-28 nM.<sup>4</sup> This reflects a 6-10 fold reduction in binding affinity compared to estradiol.<sup>4</sup>

### References

1. Miller, W.L. and Tyrrell, J.B. The adrenal cortex, Chapter 12, *in* Endocrinology and metabolism. Felig, P., Baxter, J.D., and Frohman, L.A., editors, 3rd edition, McGraw-Hill, Inc. Health Professions Division, New York, 555-711 (1995).
2. Vance, D.E. Cholesterol and related derivatives, Chapter 23, *in* Biochemistry. Zubay, G., editor, 2nd ed., Macmillan Publishing Company, New York, 725-748 (1988).
3. Cavalieri, J., Hepworth, G., and Macmillan, K.L. Ovarian follicular development in Holstein cows following synchronisation of oestrus with oestradiol benzoate and an intravaginal progesterone releasing insert for 5-9 days and duration of the oestrous cycle and concentrations of progesterone following ovulation. *Animal Reproductive Science* **81**, 177-193 (2004).
4. Matthews, J., Celius, T., Halgren, R., *et al.* Differential estrogen receptor binding of estrogenic substances: A species comparison. *J. Steroid Biochem. Molec. Biol.* **74**, 223-234 (2000).

### Related Products

Estradiol EIA Kit - Cat. No. 582251 • Testosterone EIA Kit - Cat. No. 582701 • Estradiol - Cat. No. 10006315 • Mifepristone - Cat. No. 10006317 • Levonorgestrel - Cat. No. 10006318 • Norgestrel - Cat. No. 10006319 • Tibolone - Cat. No. 10006321 • Estriol - Cat. No. 10006484 • Ethinyl Estradiol - Cat. No. 10006486 • Gestrinone - Cat. No. 10006488

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL 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 Material Safety Data Sheet, which has been sent via email to your institution.

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