

**Product Name:** β-Estradiol

**Catalog No.:** 2824

**Batch No.:** 3

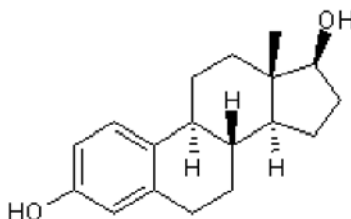
CAS Number: 50-28-2

EC Number: 200-023-8

IUPAC Name: (17β)-Estra-1,3,5(10)-triene-3,17-diol

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>18</sub>H<sub>24</sub>O<sub>2</sub> · ½H<sub>2</sub>O  
**Batch Molecular Weight:** 281.39  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 75 mM with gentle warming  
**Storage:** Store at RT  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.6% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Optical Rotation:** [α]<sub>D</sub> = +77 (Concentration = 1, Solvent = 1,4-dioxane)  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	76.83	8.96	
Found	76.78	8.9	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**3**

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IUPAC Name: (17 $\beta$ )-Estra-1,3,5(10)-triene-3,17-diol

**Description:**

$\beta$ -Estradiol is an endogenous estrogen receptor (ER) agonist ( $K_i$  values are 0.12 and 0.13 nM for ER $\alpha$  and ER $\beta$  respectively). Also high affinity ligand at membrane estrogen GPR30 receptors.  $\alpha$ -Estradiol also available.

**Physical and Chemical Properties:**

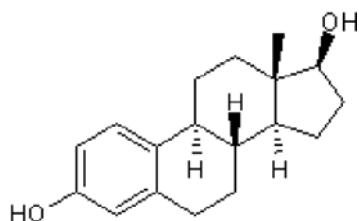
Batch Molecular Formula: C<sub>18</sub>H<sub>24</sub>O<sub>2</sub>.½H<sub>2</sub>O

Batch Molecular Weight: 281.39

Physical Appearance: White solid

**Minimum Purity:**  $\geq$ 99%

**Batch Molecular Structure:**



**Storage:** Store at RT

**CAUTION** - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol to 75 mM with gentle warming

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Thomas *et al*** (2005) Identity of an estrogen membrane receptor coupled to a G protein in human breast cancer cells. *Endocrinology* **146** 624. PMID: 15539556.

**Kuiper *et al*** (1997) Comparison of the ligand binding specificity and transcript tissue distribution of estrogen receptors  $\alpha$  and  $\beta$ . *Endocrinology* **138** 863. PMID: 9048584.

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