

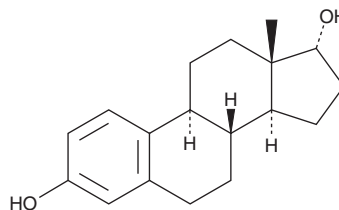
PRODUCT INFORMATION



17 α -Estradiol

Item No. 20776

CAS Registry No.: 57-91-0
Formal Name: (17 α)-estra-1,3,5(10)-triene-3,17-diol
Synonyms: Alfatradiol, α -Estradiol, 17-*epi* Estradiol, NSC 20293, 17 α -Oestradiol
MF: C₁₈H₂₄O₂
FW: 272.4
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

17 α -Estradiol is supplied as a crystalline solid. A stock solution may be made by dissolving the 17 α -estradiol in the solvent of choice, which should be purged with an inert gas. 17 α -Estradiol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 17 α -estradiol in ethanol is approximately 2.5 mg/ml and approximately 20 mg/ml in DMSO and DMF.

17 α -Estradiol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 17 α -estradiol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 17 α -Estradiol has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

17 α -Estradiol is the natural optical isomer of 17 β -estradiol (Item No. 10006315), the major estrogen secreted by the premenopausal ovary. 17 α -Estradiol is a less active isomer than its counterpart, displaying 100-fold lower estrogenic activity relative to 17 β -estradiol.¹ It can inhibit 5 α -reductase, which plays a role in regulating hair growth. 17 α -estradiol is reported to activate the MAPK/ERK and PI3K-Akt signaling pathways *via* activation of the estrogen receptor-X and has been shown to be neuroprotective after an ischemic stroke and oxidative stress and in transgenic mice with Alzheimer's disease.^{1,2}

References

1. Toran-Allerand, C.D., Tinnikov, A.A., Singh, R.J., *et al.* 17 α -estradiol: A brain-active estrogen? *Endocrinology* **146**(9), 3843-3850 (2005).
2. Green, P.S., Bishop, J., and Simpkins, J.W. 17 α -estradiol exerts neuroprotective effects on SK-N-SH cells. *J. Neurosci.* **17**(2), 511-515 (1997).

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, 12/20/2022

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