

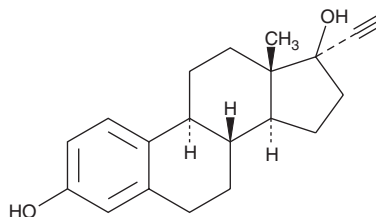
PRODUCT INFORMATION



Ethynyl Estradiol

Item No. 10006486

CAS Registry No.: 57-63-6
Formal Name: 19-norpregna-1,3,5(10)-trien-20-yne-3,17 α -diol
Synonyms: Ethynyl β -Estradiol, Ethynyl 17 β -Estradiol, Ethynyl 17 β -Oestradiol, Ethynyl E₂
MF: C₂₀H₂₄O₂
FW: 296.4
Purity: \geq 98%
UV/Vis.: λ_{max} : 281 nm
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

Ethynyl estradiol is supplied as a crystalline solid. A stock solution may be made by dissolving the ethynyl estradiol in the solvent of choice, which should be purged with an inert gas. Ethynyl estradiol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ethynyl estradiol in ethanol is approximately 30 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Ethynyl estradiol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ethynyl estradiol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Ethynyl estradiol has a solubility of approximately 0.125 mg/ml in a 1:7 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ethynyl estradiol is an estrogen receptor agonist (EC₅₀ = 8.5 pM in a reporter assay using T47D cells).¹ It reduces serum cholesterol levels and femur bone mass and increases uterine mass in an ovariectomized (OVX) rat model of postmenopause when administered at a dose of 0.1 mg/kg per day.² Ethynyl estradiol also has been found in wastewater effluent, and it prevents secondary sexual development in male fathead minnows (*P. promelas*) and increases the numbers of intersex fish when used at a concentration of 4 ng/l.^{3,4} Formulations containing ethynyl estradiol have been used as contraceptives.

References

1. Wilson, V.S., Bobseine, K., and Gray, L.E., Jr. Development and characterization of a cell line that stably expresses an estrogen-responsive luciferase reporter for the detection of estrogen receptor agonist and antagonists. *Toxicol. Sci.* **81(1)**, 69-77 (2004).
2. Bryant, H.U. and Dere, W.H. Selective estrogen receptor modulators: An alternative to hormone replacement therapy. *Proc. Soc. Exp. Biol. Med.* **217(1)**, 45-52 (1998).
3. Länge, R., Hutchinson, T.H., Croudace, C.P., et al. Effects of the synthetic estrogen 17 α -ethinylestradiol on the life-cycle of the fathead minnow (*Pimephales promelas*). *Environ. Toxicol. Chem.* **20(6)**, 1216-1227 (2001).
4. Desbrow, C., Routledge, E.J., Brighty, G.C., et al. Identification of estrogenic chemicals in STW effluent. 1. Chemical fractionation and *in vitro* biological screening. *Environ. Sci. Technol.* **32(11)**, 1549-1558 (1998).

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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