

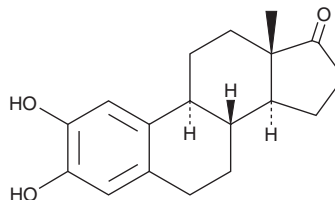
PRODUCT INFORMATION



2-hydroxy Estrone

Item No. 34154

CAS Registry No.: 362-06-1
Formal Name: 2,3-dihydroxy-estra-1,3,5(10)-trien-17-one
Synonyms: Catecholestrone, 2-hydroxy E₁, 2-OHE₁
MF: C₁₈H₂₂O₃
FW: 286.4
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-hydroxy Estrone is supplied as a solid. A stock solution may be made by dissolving the 2-hydroxy estrone in the solvent of choice, which should be purged with an inert gas. 2-hydroxy Estrone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2-hydroxy estrone in these solvents is approximately 30 mg/ml.

2-hydroxy Estrone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-hydroxy estrone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 2-hydroxy estrone has a solubility of approximately 0.33 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2-hydroxy Estrone is an active metabolite of the endogenous estrogen estrone (Item No. 10006485).¹ It is formed from estrone primarily by the cytochrome P450 (CYP) isoforms CYP1A2, CYP1A1, and CYP1B1 and metabolized to 2-methoxy estrone (Item No. 34155) by catechol-O-methyltransferase (COMT). 2-hydroxy Estrone (10 μM) inhibits the proliferation of estrogen receptor-positive MCF-7, but not estrogen receptor-negative MDA-MB-231, breast cancer cells cultured with the COMT inhibitor quinalizarin.² It inhibits iron-ADP-adriamycin complex-induced lipid peroxidation of liposomes prepared from rat liver microsomes (IC₅₀ = 2.7 μM).³

References

1. Cribb, A.E., Knight, M.J., Dryer, D., *et al.* Role of polymorphic human cytochrome P450 enzymes in estrone oxidation. *Cancer Epidemiol. Biomarkers Prev.* **15**(3), 551-558 (2006).
2. Schneider, J., Huh, M.M., Bradlow, H.L., *et al.* Antiestrogen action of 2-hydroxyestrone on MCF-7 human breast cancer cells. *J. Biol. Chem.* **259**(8), 4840-4845 (1984).
3. Nakano, M., Sugioka, K., Naito, I., *et al.* Novel and potent biological antioxidants on membrane phospholipid peroxidation: 2-Hydroxy estrone and 2-hydroxy estradiol. *Biochem. Biophys. Res. Commun.* **142**(3), 919-924 (1987).

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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