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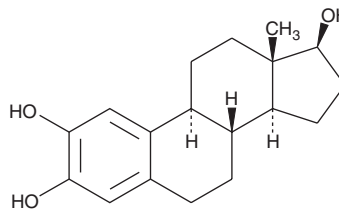
Product Information



2-Hydroxyestradiol

Catalog No. 13019

CAS Registry No.: 362-05-0
Formal Name: estra-1,3,5(10)-triene-2,3,17 β -triol
Synonyms: 2-HE2, NSC 61711
MF: C₁₈H₂₄O₃
FW: 288.4
Purity: \geq 95%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 2-hydroxyestradiol (2-HE2) be stored as supplied at -20°C. It should be stable for at least two years.

2-HE2 is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-HE2 in an organic solvent purged with an inert gas. 2-HE2 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2-HE2 in these solvents is approximately 20 mg/ml.

2-HE2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-HE2 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 2-HE2 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

2-HE2 is a cytochrome P450 metabolite of estradiol with low affinity for estrogen receptors. 2-HE is rapidly metabolized by catechol-O-methyltransferase (COMT) to form 2-methoxy estradiol (2-ME2) with a half-life of approximately ten minutes in rat.¹ 2-ME2 has achieved considerable attention as an anti-cancer agent acting as an angiogenesis inhibitor *via* the HIF-1 α pathway.²⁻⁴ Due to the rapid metabolism of 2-HE2, the effects attributed to 2-HE2, may actually be those of 2-ME2.¹

References

1. Zacharia, L.C., Piché, C.A., Fielding, R.M., *et al.* 2-hydroxyestradiol is a prodrug of 2-methoxyestradiol. *J. Pharmacol. Exp. Ther.* **309**(3), 1093-1097 (2004).
2. Mooberry, S.L. New insights into 2-methoxyestradiol, a promising antiangiogenic and antitumor agent. *Current Opinion in Oncology* **15**, 425-430 (2003).
3. Mooberry, S.L. Mechanism of action of 2-methoxyestradiol: *New developments. Drug Resistance Updates* **6**, 355-361 (2003).
4. Becker, C.M., Rohwer, N., Funakoshi, T., *et al.* 2-methoxyestradiol inhibits hypoxia-inducible factor-1 α and suppresses growth of lesions in a mouse model of endometriosis. *Am. J. Pathol.* **172**(2), 534-544 (2008).

Related Products

Estradiol - Cat. No. 10006315 • 2-methoxy Estradiol - Cat. No. 13021

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

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