

Product Data Sheet

Product Name: 4-hydroxy Estrone

Cat. No.: GC48824

Chemical Properties

Cas. No. 3131-23-5

SMILES C[C@@]12[C@](CCC2=O)([H])[C@@]3([H])[C@@](CC1)([H])C4=CC=C(O)C(O)=C4C3

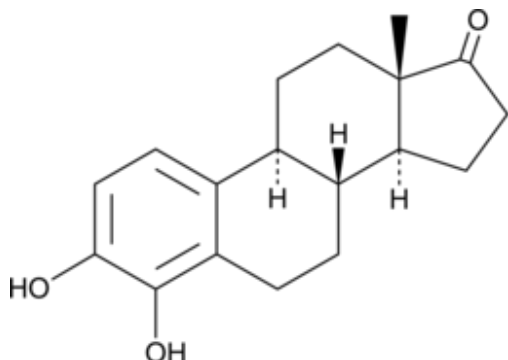
Formula C₁₈H₂₂O₃ M.Wt 286.4

Solubility DMSO: slightly soluble, Ethanol: slightly, sonicated Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

4-hydroxy Estrone is a metabolite of the endogenous estrogen estrone.¹ It is formed from estrone primarily by the cytochrome P450 (CYP) isoforms CYP1B1, CYP1A2, and CYP1A1. 4-hydroxy Estrone (5 µM) induces nuclear translocation of phosphorylated p53 and is protective against glutamate-induced oxidative death in HT22 hippocampal neuronal cells.² It reduces neurodegeneration induced by kainic acid in the rat hippocampus and improves working memory in the Y-maze in rats when administered at a dose of 10 µg/animal. 4-hydroxy Estrone also inhibits proliferation of MCF-7 and MDA-MB-231 breast cancer cells with IC₅₀ values of 30 and 38 µM,

Caution: Product has not been fully validated for medical applications. For research use only.

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respectively.³

1.Cribb, A.E., Knight, M.J., Dryer, D., et al.Role of polymorphic human cytochrome P450 enzymes in estrone oxidationCancer Epidemiol. Biomarkers Prev.15(3)551-558(2006) 2.Choi, H.J., Lee, A.J., Kang, K.S., et al.4-Hydroxyestrone, an endogenous estrogen metabolite, can strongly protect neuronal cells against oxidative damageSci. Rep.10(1)7283(2020) 3.Seeger, H., Huober, J., Wallwiener, D., et al.Inhibition of human breast cancer cell proliferation with estradiol metabolites is as effective as with tamoxifenHorm. Metab. Res.36(5)277-280(2004)

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