

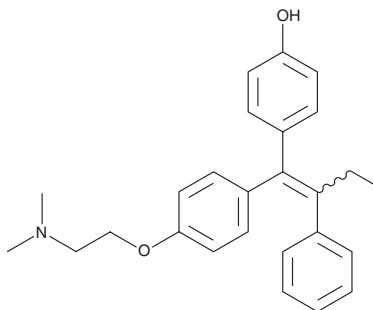
PRODUCT INFORMATION



(E/Z)-4-hydroxy Tamoxifen

Item No. 17308

CAS Registry No.: 68392-35-8
Formal Name: 4-[1-[4-[2-(dimethylamino)ethoxy]phenyl]-2-phenyl-1-buten-1-yl]-phenol
Synonyms: Afimoxifene, 4-OHT
MF: C₂₆H₂₉NO₂
FW: 387.5
Purity: ≥98% (mixture of isomers)
UV/Vis.: λ_{max}: 246, 287 nm
Supplied as: A crystalline 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

(E/Z)-4-hydroxy Tamoxifen is supplied as a crystalline solid. A stock solution may be made by dissolving the (E/Z)-4-hydroxy tamoxifen in the solvent of choice, which should be purged with an inert gas. (E/Z)-4-hydroxy Tamoxifen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (E/Z)-4-hydroxy tamoxifen in ethanol and DMF is approximately 20 mg/ml and approximately 2 mg/ml DMSO.

(E/Z)-4-hydroxy Tamoxifen is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (E/Z)-4-hydroxy tamoxifen should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (E/Z)-4-hydroxy Tamoxifen has a solubility of approximately 0.3 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

(E/Z)-4-hydroxy Tamoxifen is a mixture of (E)-4-hydroxy tamoxifen and (Z)-4-hydroxy tamoxifen.¹ (Z)-4-hydroxy Tamoxifen is an active metabolite of the estrogen receptor antagonist tamoxifen (Item Nos. 13258 | 11629) and is formed from tamoxifen by the cytochrome P450 (CYP) isoform CYP2D6. (Z)-4-hydroxy Tamoxifen (100 nM) inhibits 17β-estradiol-induced increases in the mRNA encoding progesterone receptor in MCF-7 breast cancer cells.² (Z)-4-hydroxy Tamoxifen inhibits the proliferation of MCF-7 and MDA-MB-231 breast cancer cells (IC₅₀s = 27 and 18 μM, respectively).³

References

1. Desta, Z., Ward, B.A., Soukhova, N.V., *et al.* Comprehensive evaluation of tamoxifen sequential biotransformation by the human cytochrome P450 system in vitro: Prominent roles for CYP3A and CYP2D6. *J. Pharmacol. Exp. Ther.* **310**(3), 1062-1075 (2004).
2. Y.C., L., Desta, Z., Flockhart, D.A., *et al.* Endoxifen (4-hydroxy-N-desmethyl-tamoxifen) has anti-estrogenic effects in breast cancer cells with potency similar to 4-hydroxy-tamoxifen. *Cancer Chemother. Pharmacol.* **55**(5), 471-478 (2005).
3. Seeger, H., Huober, J., Wallwiener, D., *et al.* Inhibition of human breast cancer cell proliferation with estradiol metabolites is as effective as with tamoxifen. *Horm. Metab. Res.* **36**(5), 277-280 (2004).

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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