

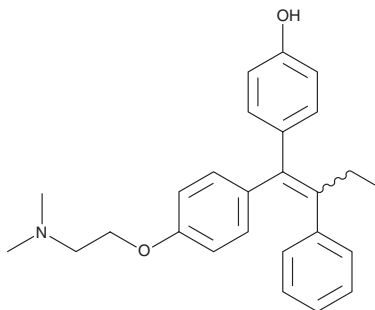
# PRODUCT INFORMATION



## (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:** C<sub>26</sub>H<sub>29</sub>NO<sub>2</sub>  
**FW:** 387.5  
**Purity:** ≥98% (mixture of isomers)  
**UV/Vis.:** λ<sub>max</sub>: 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 an active metabolite of tamoxifen (Item No. 13258).<sup>1</sup> It is formed from tamoxifen by the cytochrome P450 (CYP) isoform CYP2D6. (E/Z)-4-hydroxy Tamoxifen is cytotoxic to MCF-7 and MDA-MB-231 breast cancer cells (IC<sub>50</sub>s = 27 and 18 μM, respectively).<sup>2</sup> It also stimulates LC3 lipidation and the formation of autophagic vesicles in MCF-7 cells in a superoxide-dependent manner.<sup>3</sup>

### 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. 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).
3. Duan, L., Danzer, B., Levenson, V.V., *et al.* Critical roles for nitric oxide and ERK in the completion of pro-survival autophagy in 4OHTAM-treated estrogen receptor-positive breast cancer cells. *Cancer Lett.* **353**(2), 290-300 (2014).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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