

PRODUCT INFORMATION



(E/Z)-4-hydroxy Tamoxifen-d₅

Item No. 34232

CAS Registry No.: 2470232-57-4

Formal Name: 4-[1-[4-[2-(dimethylamino)ethoxy]phenyl]-2-phenyl-1-buten-1-yl]-3,3,4,4,4-d₅-phenol

Synonyms: Afimoxifene-d₅, 4-OHT-d₅

MF: C₂₆H₂₄D₅NO₂

FW: 392.6

Chemical Purity: ≥95% ((E/Z)-4-hydroxy Tamoxifen)

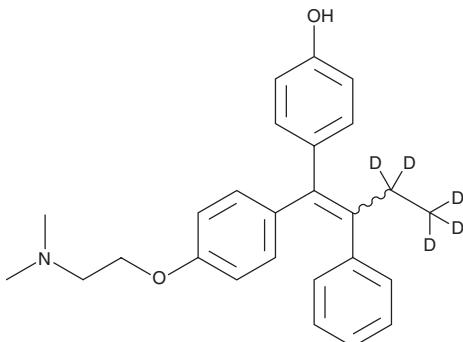
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀

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

(E/Z)-4-hydroxy Tamoxifen-d₅ is intended for use as an internal standard for the quantification of (E/Z)-4-hydroxy tamoxifen (Item No. 17308) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

(E/Z)-4-hydroxy Tamoxifen-d₅ is supplied as a solid. A stock solution may be made by dissolving the (E/Z)-4-hydroxy tamoxifen-d₅ in the solvent of choice, which should be purged with an inert gas. (E/Z)-4-hydroxy Tamoxifen-d₅ is soluble in organic solvents such as methanol and DMSO.

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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