

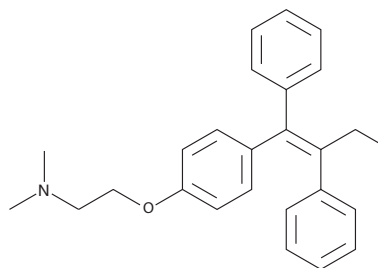
PRODUCT INFORMATION



Tamoxifen

Item No. 13258

CAS Registry No.: 10540-29-1
Formal Name: 2-[4-[(1Z)-1,2-diphenyl-1-buten-1-yl]phenoxy]-N,N-dimethyl-ethanamine
MF: C₂₆H₂₉NO
FW: 371.5
Purity: ≥95%
UV/Vis.: λ_{max}: 238, 278 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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

Tamoxifen is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tamoxifen should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 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

There are two homologous nuclear receptors for the hormone estradiol (estrogen), commonly called ERα and ERβ. Receptor activation leads to the formation of homo and heterodimers, which in turn interact with accessory proteins to regulate gene transcription. Tamoxifen is a selective estrogen receptor modulator, evoking tissue-dependent effects. It is an antagonist of ER action in breast tissue and breast cancer cells and is reported to be effective in the treatment of early breast cancer to prevent tumor growth.^{1,2} Importantly, tamoxifen has been reported to act as an ER agonist in bone and blood vessels, helping to minimize osteoporosis and reduce the risk of cardiovascular disease in post-menopausal women.³ Also, tamoxifen is a partial ER agonist in uterine tissues and is reported to increase the risk of endometrial carcinoma.⁴

References

1. Horwitz, K.B. and McGuire, W.L. Nuclear mechanisms of estrogen action. Effects of estradiol and anti-estrogens on estrogen receptors and nuclear receptor processing. *J. Biol. Chem.* **253(22)**, 8185-8191 (1978).
2. Clarke, M., Collins, R., Davies, C., *et al.* Tamoxifen for early breast cancer: An overview of the randomised trials. *Lancet* **351(9114)**, 1451-1467 (1998).
3. Tonetti, D.A. and Jordan, V.C. Targeted anti-estrogens to treat and prevent diseases in women. *Mol. Med. Today* **2(5)** 218-223 (1996).
4. Jordan, V.C. and Assikis, V.J. Endometrial carcinoma and tamoxifen: Clearing up a controversy. *Clin. Cancer Res.* **1(5)**, 467-472 (1995).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 06/26/2020

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM