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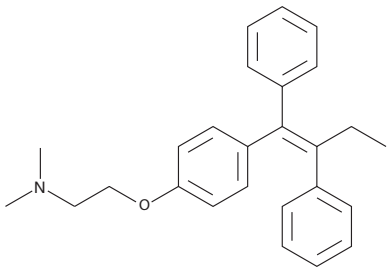
PRODUCT INFORMATION

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
Synonym: TMX
MF: $C_{26}H_{29}NO$
FW: 371.5
Purity: ≥95%
UV/Vis.: λ_{max}: 238, 278 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

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

Tamoxifen is an estrogen receptor antagonist (IC_{50} = 45 nM for the rabbit receptor).[1] It reduces the proliferation of MCF-7 breast cancer cells when used at a concentration of 10 µM.[2] Tamoxifen is active against *S. cerevisiae*, *C. neoformans*, and five *Candida* species (MICs = 12, 64, and 8-64 µg/ml, respectively).[3] It decreases tumor proliferation, weight, and volume in an MCF-7 mouse xenograft model when administered at a dose of 100 µg/animal per day.[4] Tamoxifen (0.8 mg/kg every two weeks) also reduces proteinuria and increases survival in an NZBWF1 mouse model of systemic lupus erythematosus (SLE).[5] It can be used as a regulator for Cre-recombinase inducible gene expression *in vivo*.[6] Formulations containing tamoxifen have been used in the treatment of estrogen receptor-positive breast cancer.

References

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6. Chen, M., Lichtler, A.C., Sheu, T.-J., *et al*. Generation of a transgenic mouse model with chondrocyte-specific and tamoxifen-inducible expression of Cre recombinase. *Genesis* **45(1)**, 44-50 (2007).

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