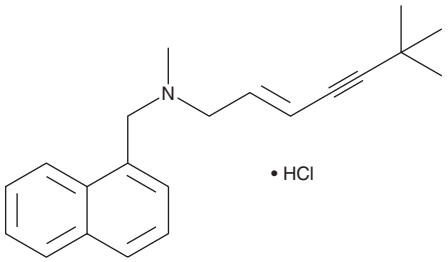
PRODUCT INFORMATION

Terbinafine (hydrochloride)

Item No. 10011619

CAS Registry No.:	78628-80-5
Formal Name:	N-[(2E)-6,6-dimethyl-2-hepten-4-yn-1-yl]-N-methyl-1-naphthalenemethanamine, monohydrochloride
MF:	$C_{21}H_{25}N \bullet HCl$
FW:	327.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 223, 284 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

Terbinafine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the terbinafine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Terbinafine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of terbinafine (hydrochloride) in these solvents is approximately 30, 12.5, and 14 mg/ml, respectively.

Terbinafine (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, terbinafine (hydrochloride) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Terbinafine (hydrochloride) 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

Terbinafine is a broad-spectrum antifungal agent that has activity against *T. rubrum*, *T. mentagrophytes*, *T. verrucosum*, *E. floccosum*, *M. canis*, *A. fumigatus*, and *S. schenckii* (MIC_{50}s = 0.003-0.8 µg/ml).[1] It selectively inhibits *C. albicans* squalene epoxidase over rat liver epoxidase (IC_{50}s = 0.03 and 77 µM, respectively).[2] Terbinafine (90-120 µM) induces cell cycle arrest at the G_0/G_1 phase in COLO 205 tumor cells and human umbilical vein endothelial cells (HUVECs).[3,4] Formulations containing terbinafine have been used in the treatment of nail and skin fungal infections.

References

1. Petranyi, G., Meingassner, J.G., and Mieth, H. Antifungal activity of the allylamine derivative terbinafine *in vitro*. *Antimicrob. Agents Chemother.* **31(9)**, 1365-1368 (1987).
2. Ryder, N.S. and Dupont, M.-C. Inhibition of squalene epoxidase by allylamine antimycotic compounds. A comparative study of the fungal and mammalian enzymes. *Biochem. J.* **230(3)**, 765-770 (1985).
3. Lee, W.-S., Chen, R.-J., Wang, Y.-J., *et al. In vitro* and *in vivo* studies of the anticancer action of terbinafine in human cancer cell lines: G0/G1 *p53*-associated cell cycle arrest. *Int. J. Cancer* **106**, 125-137 (2003).
4. Ho, P.-Y., Liang, Y.-C., Ho, Y.-S., *et al.* Inhibition of human vascular endothelial cells proliferation by terbinafine. *Int. J. Cancer* **111(1)**, 51-59 (2004).

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