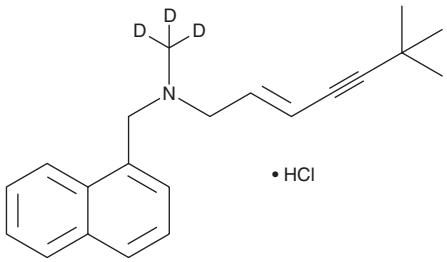
PRODUCT INFORMATION

Terbinafine-d_3 (hydrochloride)

Item No. 26392

CAS Registry No.: 1310012-15-7
Formal Name: N-[-6,6-dimethyl-2-hepten-4-yn-1-yl]-N-(methyl-d_3)-1-naphthalenemethanamine, monohydrochloride
MF: $C_{21}H_{22}D_3N \bullet HCl$
FW: 330.9
Chemical Purity: ≥98% (Terbinafine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
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

Terbinafine-d_3 (hydrochloride) is intended for use as an internal standard for the quantification of terbinafine (Item No. 10011619) 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).

Terbinafine-d_3 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the terbinafine-d_3 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Terbinafine-d_3 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of terbinafine-d_3 (hydrochloride) in these solvents is approximately 30, 10, and 14 mg/ml, respectively.

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(1)**, 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).

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