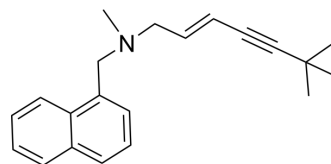


Terbinafine

Cat. No.:	HY-17395A
CAS No.:	91161-71-6
Molecular Formula:	C ₂₁ H ₂₅ N
Molecular Weight:	291.43
Target:	Fungal; Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	<div> <div>Powder</div> <div>-20°C 3 years</div> <div>4°C 2 years</div> </div> <div> <div>In solvent</div> <div>-80°C 2 years</div> <div>-20°C 1 year</div> </div>



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (343.14 mM)

* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		3.4314 mL	17.1568 mL	34.3136 mL
	5 mM		0.6863 mL	3.4314 mL	6.8627 mL
	10 mM		0.3431 mL	1.7157 mL	3.4314 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 0.5% CMC-Na/saline water
Solubility: 16.25 mg/mL (55.76 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (8.58 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 2.5 mg/mL (8.58 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: 2.5 mg/mL (8.58 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Terbinafine (TDT 067) is an orally active and potent antifungal agent. Terbinafine is a potent non-competitive inhibitor of squalene epoxidase from *Candida*, with a K_i of 30 nM. Terbinafine also shows antibacterial activity against certain Gram-positive and Gram-negative bacteria^{[1][2][3]}. Terbinafine is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAC) with molecules containing Azide groups.

IC₅₀ & Target	Ki: 30 nM (squalene epoxidase) ^[1]
In Vitro	Terbinafine has a primary fungicidal action in vitro against most fungal pathogens, including dermatophytes, and dimorphic and filamentous fungi. Terbinafine specifically inhibits fungal ergosterol biosynthesis at the point of squalene epoxidation. The treated fungal cells rapidly accumulate tlic intermediate squalene ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Terbinafine is not only active after topical application but is very effective in experimental dermatophytoses following oral administration. In fungi infected guinea-pigs, the skin temperature dropps dramatically after the fourth treatment of terbinafine ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[2]

Guinea-pigs: The backs (lumbar regions) of guinea-pigs, which have been mechanically depilated, are infected with 0.1 mL Sabouraud's dextrose 2% broth containing 10⁶ c.f.u. of Truhophyton mentagrophytes. The treatments commence 48 h post-inoculation. The test compounds (Terbinafine) are suspended in 2% tylose and Tween 80 and administered via a stomach tube once daily on 9 consecutive days, or dissolved in a mixture of polyethylene glycol 400 and etbanol and spread on the infected part ot the body in a volume of 0.4 mL with a Hrigalski spatula once daily for 1-7 consecutive days^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Microbiol. 2024 Jan 15.
- Cancer Commun (Lond). 2021 Jul 16.
- Adv Sci (Weinh). 2023 Sep;10(27):e2206878.
- Cancer Res. 2022 Sep 2;82(17):3032-3044.
- Clin Transl Med. 2024 Feb;14(2):e1586.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Ryder NS, et al. Terbinafine: mode of action and properties of the squalene epoxidase inhibition. Br J Dermatol. 1992 Feb;126 Suppl 39:2-7.
- [2]. Mieth H, et al. Preclinical evaluation of terbinafine in vivo. Clin Exp Dermatol. 1989 Mar;14(2):104-7.
- [3]. Ciftci E, et al. Mupirocin vs terbinafine in impetigo. Indian J Pediatr. 2002 Aug;69(8):679-82.

Caution: Product has not been fully validated for medical applications. For research use only.

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