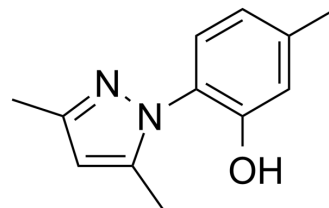


## ME1111

Cat. No.:	HY-108012		
CAS No.:	1391758-52-3		
Molecular Formula:	C <sub>12</sub> H <sub>14</sub> N <sub>2</sub> O		
Molecular Weight:	202.25		
Target:	Fungal		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (494.44 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
			10 mg	
Preparing Stock Solutions	1 mM	4.9444 mL	24.7219 mL	49.4438 mL
	5 mM	0.9889 mL	4.9444 mL	9.8888 mL
	10 mM	0.4944 mL	2.4722 mL	4.9444 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (12.36 mM); Clear solution			
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (12.36 mM); Clear solution			
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (12.36 mM); Clear solution			

### BIOLOGICAL ACTIVITY

Description	ME1111 is an antifungal agent that is active against dermatophytes. ME1111 is an inhibitor of the succinate dehydrogenase of Trichophyton species. ME1111 has an excellent ability to penetrate human nails and is used for onychomycosis research [1][2].
IC <sub>50</sub> & Target	dermatophytes <sup>[1]</sup>
In Vitro	ME1111 inhibits T. mentagrophytes TIMM 2789, with MICs of 0.5 µg/mL and 0.25 µg/mL in RPMI 1640 medium and SDB,

respectively<sup>[1]</sup>.

ME1111 mainly affects the permeability of the cell membrane<sup>[1]</sup>.

ME1111 strongly inhibits the succinate-2,6-dichlorophenolindophenol reductase reaction in *Trichophyton rubrum* and *T. mentagrophytes* (IC<sub>50</sub>: 0.029 µg/mL, 0.025 µg/mL) but only shows moderate inhibition of the same reaction in human cell lines<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay<sup>[1]</sup>

Cell Line:	T. mentagrophytes TIMM 2789
Concentration:	0.125 µg/mL, 0.0625 µg/mL
Incubation Time:	4 hours, 8 hours, 24 hours
Result:	Inhibited the hyphal growth in a dose-dependent and time-dependent manner, and induced various morphological alterations.

## REFERENCES

[1]. Nishiyama Y, et al. Morphological Effect of the New Antifungal Agent ME1111 on Hyphal Growth of *Trichophyton mentagrophytes*, Determined by Scanning and Transmission Electron Microscopy. *Antimicrob Agents Chemother.* 2016 Dec 27;61(1).

[2]. Takahata S, et al. Mechanism of Action of ME1111, a Novel Antifungal Agent for Topical Treatment of Onychomycosis. *Antimicrob Agents Chemother.* 2015 Nov 23;60(2):873-80.

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

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