## Tolnaftate

Cat. No.:	HY-B0370			
CAS No.:	2398-96-1			
Molecular Formula:	C <sub>19</sub> H <sub>17</sub> NOS			
Molecular Weight:	307.41			
Target:	Fungal			
Pathway:	Anti-infection			
Storage:	Powder	-20°C	3 years	
		4°C	2 years	
	In solvent	-80°C	2 years	
		-20°C	1 year	

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### SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (162.65 mM; Need ultrasonic) H <sub>2</sub> O : < 0.1 mg/mL (insoluble)						
	Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg		
		1 mM	3.2530 mL	16.2649 mL	32.5298 mL		
		5 mM	0.6506 mL	3.2530 mL	6.5060 mL		
	10 mM	0.3253 mL	1.6265 mL	3.2530 mL			
	Please refer to the so	lubility information to select the ap	propriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 3.25 mg/mL (10.57 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 3.25 mg/mL (10.57 mM); Clear solution						
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 3.25 mg/mL (10.57 mM); Clear solution						

BIOLOGICAL ACTIVITY					
Description	Tolnaftate (NP-27) is a synthetic thiocarbamate used as an anti-fungal agent				
IC <sub>50</sub> & Target	Antifungal <sup>[1]</sup> .				
In Vitro	Tolnaftate (NP-27) blocked sterol biosynthesis in fungal cells and cell extracts, with accumulation of squalene. This point of action was confirmed by the direct inhibition of microsomal squalene epoxidase from Candida albicans <sup>[1]</sup> . Tolnaftate (NP-				

# Product Data Sheet

|| S 27) inhibited sterol biosynthesis, At 100 microM, tolnaftate caused up to a 30% release of intracellular [14C] aminoisobutyric acid<sup>[2]</sup>.

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

### **CUSTOMER VALIDATION**

• J Chromatogr B. 2023 Jun 20, 123804.

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#### REFERENCES

[1]. Ryder, N.S., I. Frank, and M.C. Dupont, Ergosterol biosynthesis inhibition by the thiocarbamate antifungal agents tolnaftate and tolciclate. Antimicrob Agents Chemother, 1986. 29(5): p. 858-60.

[2]. Georgopapadakou, N.H. and A. Bertasso, Effects of squalene epoxidase inhibitors on Candida albicans. Antimicrob Agents Chemother, 1992. 36(8): p. 1779-81.

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

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