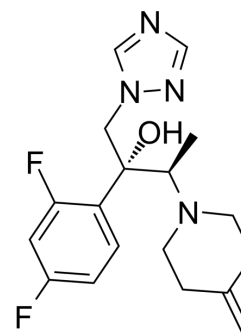


Efinaconazole

Cat. No.:	HY-15660		
CAS No.:	164650-44-6		
Molecular Formula:	C ₁₈ H ₂₂ F ₂ N ₄ O		
Molecular Weight:	348.39		
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



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (287.03 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.8703 mL	14.3517 mL	28.7035 mL
	5 mM	0.5741 mL	2.8703 mL	5.7407 mL
	10 mM	0.2870 mL	1.4352 mL	2.8703 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (7.18 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (7.18 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (7.18 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Efinaconazole (KP-103) is a triazole antifungal agent and againsts *T. mentagrophytes* SM-110 and *C. albicans* ATCC 10231 with MICs of 0.0039 µg/mL and 0.00098 µg/mL, respectively^[1]. Efinaconazole has a potent in vitro activity against fungal pathogens including dermatophytes, Candida and Malassezia species^[1].

IC₅₀ & Target

Fungal^[1]

In Vivo

Topical Efinaconazole solution (0.25 to 1%) is dose-dependently effective in treating both dermatophytoses, for 10 guinea pigs with interdigital tinea pedis or tinea corporis is investigated. The follow up study performs on day-30 and day-9 posttreatment demonstrated that the relapse rates for 1% Efinaconazole-treated animals with tinea pedis and for those with tinea corporis are 20 and 30%, respectively. When a single dose of 1% Efinaconazole is applied to the back skin 48 hours before fungal inoculation, 9 of the 10 animals are protected from the dermatophytosis, suggesting that active Efinaconazole is retained in skin tissue for at least 48 hours after dosing^[2].

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

CUSTOMER VALIDATION

- Antimicrob Agents Chemother. 2019 Sep 23;63(10):e00442-19.

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REFERENCES

[1]. Tatsumi Y, et al. Mechanism of action of efinaconazole, a novel triazole antifungal agent. Antimicrob Agents Chemother. 2013 May;57(5):2405-9.

[2]. Tatsum Y, et al. KP-103, a novel triazole derivative, is effective in preventing relapse and successfully treating experimental interdigital tinea pedis and tinea corporis in guinea pigs. Microbiol Immunol. 2002;46(7):425-32.

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

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