Voriconazole

Cat. No.: HY-76200

CAS No.: 137234-62-9

Molecular Formula: $C_{16}H_{14}F_3N_5O$

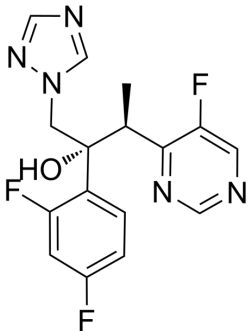
Molecular Weight: 349.31

Target: Fungal; Bacterial

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (143.14 mM)

H_2O : 0.17 mg/mL (0.49 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8628 mL	14.3139 mL	28.6279 mL
5 mM	0.5726 mL	2.8628 mL	5.7256 mL
10 mM	0.2863 mL	1.4314 mL	2.8628 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 (7.16 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.16 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.16 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Voriconazole (UK-109496) is a second-generation, broad-spectrum triazole antifungal agent that inhibits fungal ergosterol biosynthesis. Voriconazole exerts its antifungal activity by inhibition of 14-α-lanosterol demethylation, which is mediated by fungal cytochrome P450 enzymes[1][2].

In Vitro

Voriconazole has great activity against S. apiospermum and C. neoformans with the MICs of 0.5 μg/mL and 0.125-0.25 μ

	g/mL, respectively[1]. Voriconazole inhibits the cytochrome P450 (CYP)-dependent enzyme 14-alpha-sterol demethylase, thereby disrupting the cell membrane and halting fungal growth[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Voriconazole (5-20 mg/kg; p.o. for 21 days) prolongs survival in a dose-dependent fashion. Voriconazole (40 mg/kg/day) decreases the fungal burden in the lungs[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male specific-pathogen-free BALB/cByJ mice[3]
Dosage:	1, 5, 20 mg/kg/day
Administration:	P.o. once daily for 21 days
Result:	Improved survival in a dose-response fashion, with median survival times (MSTs) of 21, 28, and 35 days with doses of 1, 5, and 20 mg/kg, respectively.

CUSTOMER VALIDATION

- Transl Res. 2022 Apr 20;S1931-5244(22)00073-1.
- Front Cell Infect Microbiol. 2020 Jun 26;10:320.
- Infect Drug Resist. 2022: 7459-7473.
- J Mycol Med. 9 November 2021, 101227.
- Med Mycol. 2018 Jun 1;56(4):452-457.

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REFERENCES

[1]. Nickie D Greer, et al. Voriconazole: the newest triazole antifungal agent.Proc (Bayl Univ Med Cent). 2003 Apr;16(2):241-8.

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