Lanoconazole

Cat. No.: HY-14282

CAS No.: 101530-10-3

Molecular Formula: $C_{14}H_{10}ClN_3S_2$

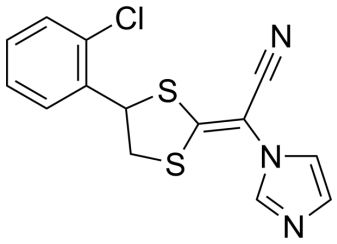
Molecular Weight: 319.83

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 (312.67 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1267 mL	15.6333 mL	31.2666 mL
	5 mM	0.6253 mL	3.1267 mL	6.2533 mL
	10 mM	0.3127 mL	1.5633 mL	3.1267 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 (7.82 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (7.82 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.82 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lanoconazole is a potent and orally active imidazole antifungal agent, shows a broad spectrum of activity against fungi in vitro and in vivo[1]. Lanoconazole interferes with ergosterol biosynthesis by inhibiting sterol 14-alpha demethylase and blocking fungal membrane ergosterol biosynthesis. Lanoconazole can be used for the investigation of dermatophytosis and onychomycosis[1][2].

IC_{50} & Target

IC50: antifungal[1]

In Vivo

Lanoconazole (treatment for ear; 0.3%-3%; 6 days) dose-dependentlysuppressesTPA-induced irritant dermatitis, suppresses the production of neutrophil chemotactic factors such as keratinocyte-derived chemokine and macrophage inflammatory protein-2, and inhibited neutrophil infiltration to the inflammation site[2].

Lanoconazole (oral administration; 3, 10 or 30 mg/kg; once a day; 3 weeks) significantly inhibits C. neoformans compared with the saline control in normal mice. In addtion, it significantly reduces the growth of C. neoformans in the lungs and brains of MAIDS mice[3].

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

Animal Model:	BALB/c mice[2]
Dosage:	0.3%-3% dosage
Administration:	Treatment for ear
Result:	Exhibited an inhibition effect of LCZ on ear swelling induced by topical application of TPA in mice.

Animal Model:	Four week old C57BL/6 mice infected intraperitoneally with LP-BM5 murine leukaemia virus[3]
Dosage:	3, 10 or 30 mg/kg
Administration:	Oral adminstration
Result:	Inhibited C. neoformans growth in both normal and C. neoformans -induced encephalitis MAIDS mice .

REFERENCES

[1]. Shokoohi GR, et al. In Vitro Activities of Luliconazole, Lanoconazole, and Efinaconazole Compared with Those of Five Antifungal Drugs against Melanized Fungi and Relatives.Antimicrob Agents Chemother. 2017 Oct 24;61(11). pii: e00635-17.

[2]. Nakamura A, et al. Anti-inflammatory effect of lanoconazole on 12-O-tetradecanoylphorbol-13-acetate- and 2,4,6-trinitrophenyl chloride-induced skin inflammation in mice.Mycoses. 2020 Feb;63(2):189-196.

[3]. Furukawa K, et al. Lanoconazole, a new imidazole antimycotic compound, protects MAIDS mice against encephalitis caused by Cryptococcus neoformans.J Antimicrob Chemother. 2000 Sep;46(3):443-50.

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