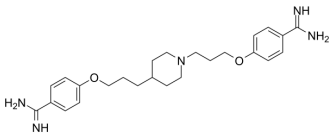
T-2307

Cat. No.:	HY-114220
CAS No.:	873546-31-7
Molecular Formula:	$C_{25}H_{35}N_5O_2$
Molecular Weight:	437.58
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 : 50 mg/mL (114.26 mM; ultrasonic and adjust pH to 3 with HCl)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	2.2853 mL	11.4265 mL	22.8530 mL
5 mM	0.4571 mL	2.2853 mL	4.5706 mL
10 mM	0.2285 mL	1.1426 mL	2.2853 mL

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

BIOLOGICAL ACTIVITY

Description

T-2307, an arylamidine, has antifungal activities in vitro and in vivo. T-2307 exhibits broad-spectrum activity against clinically significant pathogens, including Candida species (MIC range, 0.00025 to 0.0078 μg/ml), Cryptococcus neoformans (MIC range, 0.0039 to 0.0625 μg/ml), and Aspergillus species (MIC range, 0.0156 to 4 μg/mL) [1].

In Vitro

T-2307 exhibits potent activity against fluconazole-resistant and fluconazole-susceptible-dose-dependent Candida albicans strains as well as against azole-susceptible strains[1].

T-2307 shows efficacy in a murine model of candida glabrata infection despite in vitro trailing growth phenomena[2].

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

Cell Viability Assay[2]

Cell Line:	C. glabrata ATCC 90030
Concentration:	0.000125, 0.00025, 0.0005, 0.001, 0.002, 0.0039, 0.0078, 0.0156, 0.0313, 0.0625, 0.125 μg/mL
Incubation Time:	24 and 48 hours

Result:	C. glabrata exhibited significant trailing growth at concentrations between 0.0039 and 0.125 μg/mL at 48 h. The trailing growth of C. glabrata at 24 h of incubation was similar to that at 48 h.

In Vivo

In mouse models of disseminated candidiasis, cryptococcosis, and aspergillosis, the ED_{50} of T-2307 were 0.00755, 0.117, and 0.391 mg/kg, respectively[1].

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

Animal Model:	4-week-old specific-pathogen-free ICR strain male mice bearing systemic infections with Candida albicans, Cryptococcus neoformans, and Aspergillus fumigatus[1].
Dosage:	0.001, 0.1, 1 mg/kg
Administration:	Subcutaneously administered; once a day for 7 days, beginning at 2 h after the infection.
Result:	In the systemic infection caused by Candida albicans, all the control mice died by day 6. Mortality was significantly delayed in mice that were administered T-2307 at a dose of 0.01 mg/kg compared with that in the control mice. The calculated ED_{50}s of T-2307were 0.00755 mg/kg. In the systemic infection caused by Cryptococcus neoformans, all the control mice died by day 9. Mortality was significantly delayed in mice administered T-2307 at a dose of 0.1 mg/kg compared with that in the control mice. The calculated ED_{50}s of T-2307 were 0.117 mg/kg. In the systemic infection caused by Aspergillus fumigatus, all the control mice died by day 6. Mortality was significantly delayed in mice that were administered T-2307 at a dose of 1 mg/kg compared with that in the control mice. The calculated ED_{50}s of T-2307 were 0.391 mg/kg.

REFERENCES

[1]. Junichi Mitsuyama, et al. In vitro and in vivo antifungal activities of T-2307, a novel arylamidine. Antimicrob Agents Chemother. 2008 Apr;52(4):1318-24.

[2]. Eio Yamada, et al. T-2307 shows efficacy in a murine model of Candida glabrata infection despite in vitro trailing growth phenomena. Antimicrob Agents Chemother. 2010 Sep;54(9):3630-4.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA