Caspofungin diacetate

Cat. No.: HY-17006

CAS No.: 179463-17-3

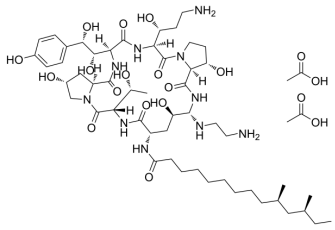
Molecular Formula: $C_{56}H_{96}N_{10}O_{19}$

Molecular Weight: 1213.42

Target: Fungal; Antibiotic; Bacterial

Pathway: Anti-infection

Storage: -20°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (82.41 mM)
DMSO : 100 mg/mL (82.41 mM; Need ultrasonic)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.8241 mL	4.1206 mL	8.2412 mL
	5 mM	0.1648 mL	0.8241 mL	1.6482 mL
	10 mM	0.0824 mL	0.4121 mL	0.8241 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (82.41 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.06 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (1.71 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (1.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Caspofungin (MK-0991) diacetate is a potent antifungal agent. Caspofungin diacetate inhibits the synthesis of the fungal cell wall component β-(l,3)-D-glucan[1][2].

In Vivo

Caspofungin diacetate (1-8 mg/kg; i.p.; daily, for 7 days) is able to penetrate the CNS in mice and achieve concentrations that

result in the reduction of Candida burden in the brain[1].
Caspofungin diacetate (0.41-41 μM; i.p.; for 5 weeks; male C57BL/6 mice) is a safe antifungal agent at vitreal concentrations of 0.41 to 4.1 μM in mice[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Complement component 5-deficient DBA/2N mice[1]
Dosage:	1, 2, 4 and 8 mg/kg
Administration:	Intraperitoneal injection; daily, for 7 days
Result:	Reduced the concentration of Candida load in the brain.

Animal Model:	Male C57BL/6 mice[2]
Dosage:	0.41, 1.2, 2.5, 4.1, and 41 μM
Administration:	Intraperitoneal injection; for 5 weeks
Result:	Had nonsignificant alterations in their ERG waveforms from 0.41 to 4.1 μM.

CUSTOMER VALIDATION

- Cell Mol Immunol. 2023 Mar 2;1-14.
- EMBO Rep. 2022 Apr 11;e53932.
- Cell Physiol Biochem. 2016 Aug 12;39(3):939-949.

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REFERENCES

[1]. Flattery AM, et, al. Efficacy of caspofungin in a juvenile mouse model of central nervous system candidiasis. Antimicrob Agents Chemother. 2011 Jul;55(7):3491-7.

[2]. Mojumder DK, et, al. Evaluating retinal toxicity of intravitreal caspofungin in the mouse eye. Invest Ophthalmol Vis Sci. 2010 Nov;51(11):5796-803.

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