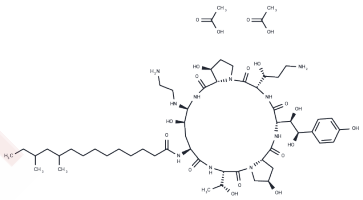
Data Sheet (Cat.No.T1799)

TargetMol

Caspofungin Acetate

Chemical Properties



CAS No. : 179463-17-3

Formula: C56H96N10O19

Molecular Weight: 1213.42

Storage: Keep away from direct sunlight,Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Caspofungin Acetate (MK 0991) is the acetate salt of an antimycotic echinocandin lipopeptide, semisynthetically derived from a fermentation product of the fungus Glarea lozoyensis. This agent is active against Aspergillus and Candida species.
Targets(IC50)	Antibacterial,Antibiotic,Antifungal
In vitro	Caspofungin acetate is the first in a new class of antifungals that inhibits the synthesis of beta (1, 3)-d-glucan, an essential component of the cell wall of filamentous fungi. Prior studies have shown in vitro activity of caspofungin acetate using the reference methods, broth microdilution or macrodilution, for antifungal susceptibility testing of Candida species established by the National Committee for Clinical Laboratory Standards 1997 guidelines against a variety of Candida species including Candida krusei. Although caspofungin acetate is only Food and Drug Administration-approved for the treatment of aspergillosis, there is information showing that many Candida species are susceptible. The minimal inhibitory concentration for 90% inhibition of Candida species by caspofungin acetate are as follows:C. albicans 0.5 μg/mL (range, 0.25-0.5), C. glabrata 1.0 μg/mL (range, 0.25-2.0), C. tropicalis 1.0 μg/mL (range, 0.25-1.0), C. parapsilosis 0.5 μg/mL (range, 0.25-1.0), and C. krusei 2.0 μg/mL (range, 0.5-2.0)
In vivo	Mice injected with caspofungin at vitreal concentrations from 0.41 to 4.1 μM cause no significant alterations in their ERG waveforms and their retinas have no detectable morphologic changes or loss of cells. At the vitreal concentration of 41 μM, caspofungin reduces the amplitudes of the a-waves, b-waves, and scotopic threshold responses of the ERG and also produces a decrease in the number of cells in the ganglion cell layer [4]. Caspofungin (8 mg/kg) or amphotericin B at 1 mg/kg given i.p. once daily for 7 days beginning at 30 h after infection resulted in 100% survival through day 28 relative to vehicle control treatment, which results in 100% mortality by day 11 after infectious challenge. Caspofungin reduces recovery of viable Candida from kidney and brain tissues compared to vehicle control treatment on day 5, when control burden peaked. Caspofungin-treated mice dosed with 2 mg/kg or greater have significantly lower brain burden than amphotericin-B-treated mice at day 5. Amphotericin B and caspofungin treatment reduce kidney fungal burden by 1.7 log CFU/g and 2.46 to 3.64 log CFU/g, respectively[5].

Solubility Information

Solubility	DMSO: 102 mg/mL (84.06 mM),Sonication is recommended. H2O: 100 mg/mL (82.41 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 3.3 mg/mL (2.72 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.0165 mL	0.0824 mL	0.1648 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481