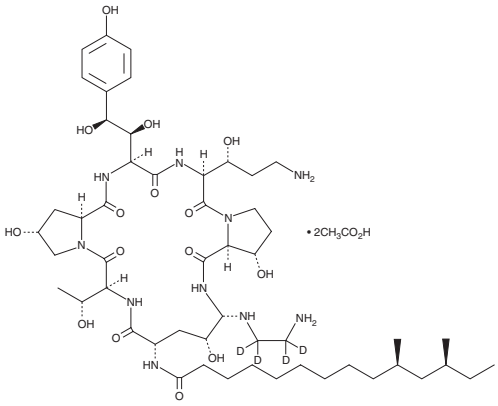
PRODUCT INFORMATION

Caspofungin-d_4 (acetate)

Item No. 29096



Formal Name:	1-[(4R,5S)-5-[(2-aminoethyl-1,1,2,2-d_4) amino]-N^2-(10,12-dimethyl-1-oxotetradecyl)-4-hydroxy-L-ornithine]-5-[(3R)-3-hydroxy-L-ornithine]-pneumocandin B_0, diacetate
MF:	$C_{52}H_{84}D_4N_{10}O_{15} \bullet 2C_2H_4O_2$
FW:	1,217.5
Chemical Purity:	≥95% (Caspofungin)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Caspofungin-d_4 (acetate) is intended for use as an internal standard for the quantification of caspofungin (Item No. 15923) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Caspofungin-d_4 (acetate) is supplied as a solid. A stock solution may be made by dissolving the caspofungin-d_4 (acetate) in the solvent of choice, which should be purged with an inert gas. Caspofungin-d_4 (acetate) is slightly soluble in the organic solvent methanol.

Description

Caspofungin is an antifungal compound that is classified as an echinocandin, as it acts by noncompetititvely inhibiting the enzyme 1,3-β glucan synthase and preventing the synthesis of glucan in the fungal cell wall.[1] It is effective against disseminated or invasive aspergillosis and candidiasis.[2,3] Caspofungin has a 50% minimum effective concentration against *Aspergillus* spp. of 0.015 µg/ml.[4] It does not antagonize other antifungal compounds, like amphotericin B, and, in some cases, may show additive or synergistic activity.[1,3,5]

References

1. Letscher-Bru, V. and Herbrecht, R. Caspofungin: The first representative of a new antifungal class. *J. Antimicrob. Chemother.* **51(3)**, 513-521 (2003).
2. Abruzzo, G.K., Flattery, A.M., Gill, C.J., *et al.* Evaluation of the echinocandin antifungal MK-0991 (L-743,872): Efficacies in mouse models of disseminated aspergillosis, candidiasis, and cryptococcosis. *Antimicrob. Agents Chemother.* **41(11)**, 2333-2338 (1997).
3. Deresinski, S.C. and Stevens, D.A. Caspofungin. *Clin. Infect. Dis.* **36(11)**, 1445-1457 (2003).
4. Pfaller, M.A., Boyken, L., Hollis, R.J., *et al.* In vitro susceptibility of clinical isolates of Aspergillus spp. to anidulafungin, caspofungin, and micafungin: A head-to-head comparison using the CLSI M38-A2 broth microdilution method. *J. Clin. Microbiol.* **47(10)**, 3323-3325 (2009).
5. Herbrecht, R., Nivoix, Y., Fohrer, C., *et al.* Management of systemic fungal infections: Alternatives to itraconazole. *J. Antimicrob. Chemother.* **56(Suppl 1)**, i39-i48 (2005).

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