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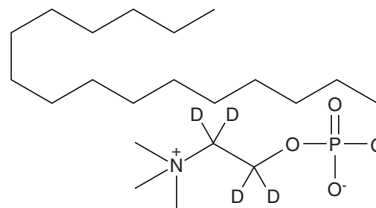
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PRODUCT INFORMATION



Miltefosine-d₄ Item No. 34707

Formal Name:	2-[[[(hexadecyloxy)hydroxyphosphinyl]oxy]-N,N,N-trimethyl-ethanaminium-1,1,2,2-d ₄ , inner salt
Synonyms:	Hexadecylphosphocholine-d ₄ , HPC-d ₄
MF:	C ₂₁ H ₄₂ D ₄ NO ₄ P
FW:	411.6
Chemical Purity:	≥90% (Miltefosine)
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

Miltefosine-d₄ is intended for use as an internal standard for the quantification of miltefosine (Item No. 63280) 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).

Miltefosine-d₄ is supplied as a solid. A stock solution may be made by dissolving the miltefosine-d₄ in the solvent of choice, which should be purged with an inert gas. Miltefosine-d₄ is soluble in methanol.

Description

Miltefosine is an inhibitor of CTP:phosphocholine cytidyltransferase (CCT).¹ It inhibits liposome-induced CCT activity in MDCK cell homogenates when used at concentrations ranging from 10 to 50 μM, as well as induces translocation of CCT from the cell membrane to the cytosol in MDCK cells. Miltefosine inhibits phosphatidylcholine biosynthesis induced by phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) in MDCK and HeLa cells when used at a concentration of 50 μM.² It inhibits phosphatidylserine-activated PKC (IC₅₀ = 62 μM), as well as PMA-induced morphological changes and proliferation of MDCK cells.³ Miltefosine is active against clinical isolate promastigotes of *L. infantum* (EC₅₀s = 5-25 μM).⁴ Topical application of miltefosine (0.5%) completely eradicates *L. amazonensis* and induces re-epithelialization of lesions in a mouse model of cutaneous leishmaniasis.⁵ Formulations containing miltefosine have been used in the treatment of leishmaniasis and various free-living amoeba infections.

References

1. Geilen, C.C., Wieder, T., and Reutter, W. *J. Biol. Chem.* **267**(10), 6719-6724 (1992).
2. Wieder, T., Geilen, C.C., and Reutter, W. *Biochem. J.* **291**(Pt. 2), 561-567 (1993).
3. Geilen, C.C., Haase, R., Buchner, K., et al. *Eur. J. Cancer* **27**(12), 1650-1653 (1991).
4. Espada, C.R., de Castro Levatti, E.V., Boité, M.C., et al. *Microorganisms* **9**(6), 1228 (2021).
5. Peralta, M.F., Usseglio, N.A., Bracamonte, M.E., et al. *Drug Deliv. Transl. Res.* **12**(1), 180-196 (2022).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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