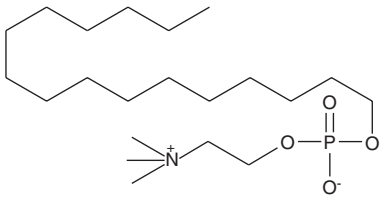
PRODUCT INFORMATION

Miltefosine

Item No. 63280

CAS Registry No.:	58066-85-6
Formal Name:	2-[[(hexadecyloxy)hydroxyphosphinyl]oxy]-N,N,N-trimethyl-ethanaminium, inner salt
Synonyms:	Hexadecylphosphocholine, HPC, NSC 605583
MF:	$C_{21}H_{46}NO_4P$
FW:	407.6
Purity:	≥98%
Supplied as:	A crystalline 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 is supplied as a crystalline solid. A stock solution may be made by dissolving the miltefosine in the solvent of choice, which should be purged with an inert gas. Miltefosine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of miltefosine in these solvents is approximately 1.25, 0.8, and 0.05 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of miltefosine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of miltefosine in PBS (pH 7.2) is approximately 2.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Miltefosine is an inhibitor of CTP:phosphocholine cytidylyltransferase (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 (IC_{50} = 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* (EC_{50}s = 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM