

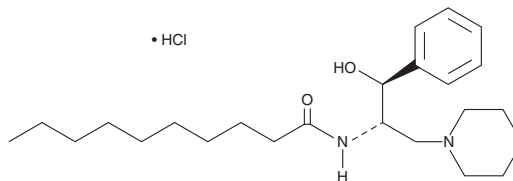
Product Information



DL-*threo*-PDMP (hydrochloride)

Catalog No. 10005276

CAS Registry No.: 80938-69-8
Formal Name: N-[2-hydroxy-1-(4-morpholinylmethyl)-2-phenylethyl]-decanamide, monohydrochloride
MF: C₂₃H₃₈N₂O₃ • HCl
FW: 427.0
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that DL-*threo*-PDMP (hydrochloride) be stored as supplied at -20°C. It should be stable for at least one year.

DL-*threo*-PDMP (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the DL-*threo*-PDMP (hydrochloride) in an organic solvent purged with an inert gas. DL-*threo*-PDMP (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DL-*threo*-PDMP (hydrochloride) in these solvents is 50, 30, and 25 mg/ml, respectively.

DL-*threo*-PDMP (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DL-*threo*-PDMP (hydrochloride) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DL-*threo*-PDMP (hydrochloride) has a solubility of 0.05 mg/ml in a 1:5 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

PDMP is a ceramide analog first prepared in a search for inhibitors of glucosylceramide synthase.¹ PDMP has two adjacent chiral centers (C1 and C2) allowing for the formation of four possible isomers. DL-*threo* PDMP contains two of these four stereoisomers; D-*threo* (1R,2R) and L-*threo* (1S,2S) PDMP. Treatment of cultured cells with PDMP reduces the synthesis of glucosylceramide, increases cellular ceramide, and induces cell cycle arrest.² The ability to inhibit glucosylceramide synthase has been found to reside in the D-*threo* (1R,2R) enantiomer.³ Although the L-*threo* isomer lacks this activity, it may be responsible for some of the other pleiotropic effects of PDMP.

References

1. Vunnam, R.R. and Radin, N.S. Analogs of ceramide that inhibit glucocerebrosidase in mouse brain. *Chem. Phys. Lipids* **26**, 265-278 (1980).
2. Rani, C.S.S., Abe, A., Chang, Y., *et al.* Cell cycle arrest induced by an inhibitor of glucosylceramide synthase. Correlation with cyclin-dependent kinases. *J. Biol. Chem.* **270**(6), 2859-2867 (1995).
3. Abe, A., Radin, N.S., Shayman, J.A., *et al.* Structural and stereochemical studies of potent inhibitors of glucosylceramide synthase and tumor cell growth. *J. Lipid Res.* **36**, 611-621 (1995).

Related Products

(+)-D-*threo*-PDMP - Cat. No. 10178 • (±)-PDMP (hydrochloride) - Cat. No. 62595

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

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