

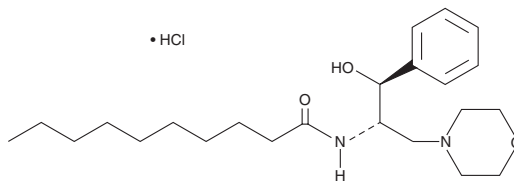
# PRODUCT INFORMATION



## DL-threo-PDMP (hydrochloride)

Item No. 10005276

**CAS Registry No.:** 80938-69-8  
**Formal Name:** N-[2-hydroxy-1-(4-morpholinylmethyl)-2-phenylethyl]-decanamide, monohydrochloride  
**MF:** C<sub>23</sub>H<sub>38</sub>N<sub>2</sub>O<sub>3</sub> • HCl  
**FW:** 427.0  
**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

DL-threo-PDMP (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the DL-threo-PDMP (hydrochloride) in the solvent of choice, which should be 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 approximately 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 approximately 0.05 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.

### Description

DL-threo PDMP is a mixture of ceramide analogs that contains two of the four possible stereoisomers of PDMP (Item No. 62595): D-threo-(1R,2R)-PDMP and L-threo-(1S,2S)-PDMP.<sup>1</sup> DL-threo-PDMP inhibits glucosylceramide synthase by 33 and 48% in MDCK cell homogenates when used at concentrations of 5 and 10 μM.<sup>2</sup> It reduces the synthesis of glucosylceramide, increases cellular ceramide, and induces cell cycle arrest *in vitro*.<sup>3</sup> The ability to inhibit glucosylceramide synthase has been found to reside in the D-threo-(1R,2R) enantiomer.<sup>4</sup> The D-threo-PDMP enantiomer is also responsible for inhibition of β-1,4-galactosyltransferase 6 and prevention of lactosylceramide synthesis, which is a promoter of neuroinflammation in mice during chronic experimental autoimmune encephalomyelitis (EAE), a model of multiple sclerosis.<sup>5</sup> DL-threo-PDMP increases amyloid-β (1-42) (Aβ42) and Aβ39 production independent of ceramide metabolism *via* modulation of γ-secretase activity in HEK293 cells expressing the γ-secretase substrate SC100.<sup>6</sup>

### References

1. Vunnam, R.R. and Radin, N.S. *Chem. Phys. Lipids* **26(3)**, 265-278 (1980).
2. Inokuchi, J.I. and Radin, N.S. *J. Lipid Res.* **28(5)**, 565-571 (1987).
3. Rani, C.S.S., Abe, A., Chang, Y., *et al. J. Biol. Chem.* **270(6)**, 2859-2867 (1995).
4. Abe, A., Radin, N.S., Shayman, J.A., *et al. J. Lipid Res.* **36(3)**, 611-621 (1995).
5. Mayo, L., Trauger, S.A., Blain, M., *et al. Nat. Med.* **20(10)**, 1147-1156 (2014).
6. Takasugi, N., Sasaki, T., Shinohara, M., *et al. Biochem. Bioph. Res. Commun.* **457(2)**, 194-199 (2015).

#### 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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