

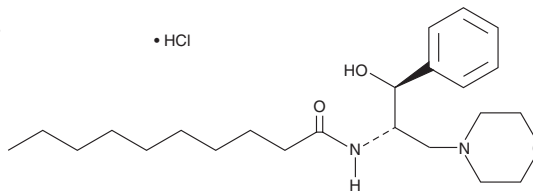
PRODUCT INFORMATION



(-)-L-threo-PDMP (hydrochloride)

Item No. 10005278

CAS Registry No.: 161491-04-9
Formal Name: N-[(1S,2S)-2-hydroxy-1-(4-morpholinylmethyl)-2-phenylethyl]-decanamide, monohydrochloride
MF: C₂₃H₃₈N₂O₃ • HCl
FW: 427.0
Purity: ≥98%
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

(-)-L-threo-PDMP (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the (-)-L-threo-PDMP (hydrochloride) in the solvent of choice, which should be purged with an inert gas. (-)-L-threo-PDMP (hydrochloride) is soluble in ethanol and methanol. We do not recommend storing the aqueous solution for more than one day.

Description

(-)-L-threo-PDMP is a ceramide analog and one of the four possible stereoisomers of PDMP (Item No. 62595).¹ L-threo-PDMP is an enhancer of ganglioside biosynthesis.^{1,2} It increases glucosylceramide synthase activity by 4 and 8% when used at concentrations of 5 and 2.5 μM, respectively, in an enzyme assay.¹ L-threo-PDMP increases the activity of ganglioside GM₃, GD₃, and GQ_{1b} synthases and increases the levels of glucosylceramide, lactosylceramide, and ganglioside GM₃ in B16 melanoma cells.^{2,3} It inhibits the growth of MCF-7, MDA-MB-468, SK-BR-3 cells with IC₅₀ values of 4, 7, and 6 μM, respectively.⁴ L-threo-PDMP increases neurite outgrowth and synapse formation *in vitro* and improves retention of a long-term memory learned prior to forebrain ischemia in rats when administered following ischemia at a dose of 40 mg/kg per day.² The L-threo-PDMP isomer is the glucosylceramide synthetase stimulatory component of DL-threo-PDMP (Item No. 10005276), while D-threo-PDMP (Item No. 10178) is the inhibitory component.¹

References

1. Inokuchi, J.-i. and Radin, N.S. Preparation of the active isomer of 1-phenyl-2-decanoylamino-3-morpholino-1-propanol, inhibitor of murine glucocerebrosidase. *J. Lipid Res.* **28(5)**, 565-571 (1987).
2. Inokuchi, J.-i., Mizutani, A., Jimbo, M., et al. Up-regulation of ganglioside biosynthesis, functional synapse formation, and memory retention by a synthetic ceramide analog (L-PDMP). *Biochim. Biophys. Res. Commun.* **237(3)**, 595-600 (1997).
3. Inokuchi, J.-i. Neurotrophic and neuroprotective actions of an enhancer of ganglioside biosynthesis. *Int. Rev. Neurobiol.* **85**, 319-336 (2009).
4. Ma, R., Decker, N.M., Anilus, V., et al. Post-translational and transcriptional regulation of glycolipid glycosyltransferase genes in apoptotic breast carcinoma cells: VII. Studied by DNA-microarray after treatment with L-PPMP. *Glycoconj. J.* **26(6)**, 647-661 (2009).

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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