

PRODUCT DATA SHEET

D,L-erythro-PPMP

Catalog number: 1753

Common Name: D,L-erythro-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol • HCl

Source: synthetic

Solubility: ethanol, methanol, chloroform, DMSO

CAS number: N/A

Molecular Formula: C₂₉H₅₀N₂O₃ • HCl

Molecular Weight: 511

Storage: -20°C

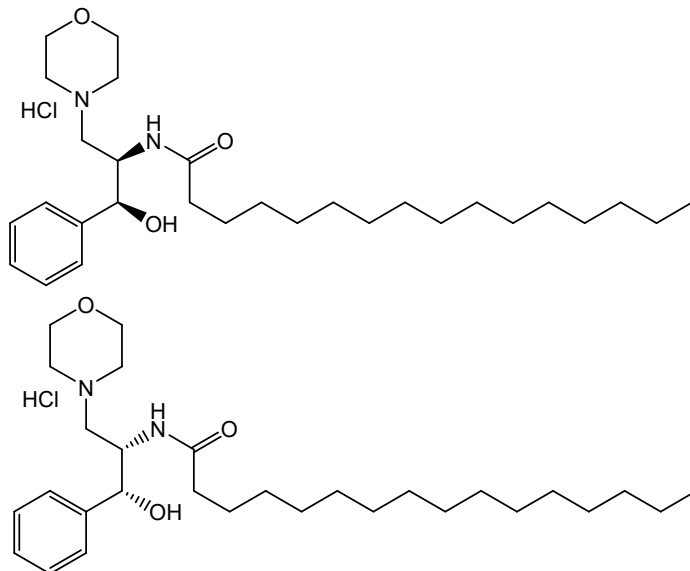
Purity: TLC >98%; HPLC >98%; identity confirmed by MS

TLC System: chloroform/methanol/acetic acid (90:10:10 by vol.)

Appearance: solid

Application Notes:

This product is the *erythro* isomer of the glucosylceramide synthase inhibitor *D-threo*-PPMP. Whereas *D-threo*-PPMP is an active inhibitor both *D*- and *L-erythro*-PPMP are inactive towards glucosylceramide synthase and can therefore be used for effective comparison studies. Due to PPMP's ability to inhibit the joining of ceramides with carbohydrates there can be an accumulation of ceramide in the cells and this can lead to apoptosis. It has been suggested that an accumulation of glucosylceramide may cause multidrug-resistance in tumor cells and that PPMP may be useful in reversing or preventing multidrug-resistance by blocking the synthesis of glucosylceramides.¹ Cells that were incubated with PPMP have been shown to have a 50% decrease in the viral fusion of HIV-1, causing a reduction in the penetration of this virus into these cells.² PPMP has been used to arrest the growth of the malarial causing parasite *Plasmodium falciparum* by inhibiting its very specific glucosylceramide synthase, an approach that has great potential for malarial chemotherapy.³ Conduritol B epoxide (CBE), an inhibitor of *beta*-glucosidase, along with PPMP can be used to create a model of Gaucher disease.⁴



Selected References:

1. P. Xie et al. "Overexpression of glucosylceramide synthase in associated with multidrug resistance of leukemia cells" *Leukemia Research*, vol. 32(3) pp. 475-480, 2008
2. A. Puri et al. "Human Erythrocyte Glycolipids Promote HIV-1 Envelope Glycoprotein-Mediated Fusion of CD4+Cells" *Biochemical and Biophysical Research Communications*, Vol. 242 pp. 219-225, 1998
3. A. Couto et al. "Glycosphingolipids in *Plasmodium falciparum*: Presence of an active glucosylceramide synthase" *European Journal of Biochemistry*, Vol. 271 pp. 2204-2214, 2004
4. D. Sillance et al. "Glucosylceramide modulates membrane traffic along the endocytic pathway" *Journal of Lipid Research*, Vol. 43 pp. 1837-1845, 2002

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