

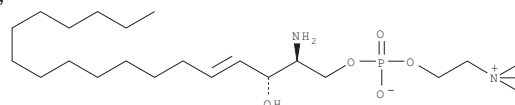
# PRODUCT INFORMATION



## D-erythro Lyso sphingomyelin (d18:1)

Item No. 10007947

**CAS Registry No.:** 1670-26-4  
**Formal Name:** 2-[[[2S-amino-3R-hydroxy-4E-octadecenyl]oxy]hydroxyphosphinyl]oxy]-N,N,N-trimethyl-ethanaminium  
**Synonyms:** D-erythro Lyso SM(18:1), D-erythro-Sphingophosphorylcholine, D-erythro Sphingosine-1-Phosphocholine (d18:1), Lyso-SM(d18:1), Lysosphingomyelin (d18:1)



**MF:** C<sub>23</sub>H<sub>49</sub>N<sub>2</sub>O<sub>5</sub>P  
**FW:** 464.6  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

D-erythro Lyso sphingomyelin (d18:1) is supplied as a crystalline solid. A stock solution may be made by dissolving the D-erythro lysosphingomyelin (d18:1) in the solvent of choice, which should be purged with an inert gas. D-erythro Lyso sphingomyelin (d18:1) is soluble in the organic solvent ethanol at a concentration of approximately 15 mg/ml.

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 D-erythro lysosphingomyelin (d18:1) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of D-erythro lysosphingomyelin (d18:1) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

D-erythro Lyso sphingomyelin is a bioactive sphingolipid.<sup>1</sup> It is an agonist of sphingosine-1-phosphate receptor 1 (S1P<sub>1</sub>), S1P<sub>2</sub>, and S1P<sub>3</sub> (EC<sub>50</sub>s = 167.7, 368.1, and 482.6 nM, respectively, for the human receptors). D-erythro Lyso sphingomyelin is also an agonist of the orphan receptor ovarian cancer G protein-coupled receptor 1 (ORG1) that induces calcium accumulation in cells overexpressing OGR1 (EC<sub>50</sub> = ~35 nM).<sup>2</sup> Levels of D-erythro lysosphingomyelin are increased in skin isolated from patients with atopic dermatitis, as well as postmortem brain from patients with Niemann-Pick disease type A, but not type B.<sup>3,4</sup>

### References

1. Im, D.-S., Clemens, J., Macdonald, T.L., et al. *Biochemistry* **40(46)**, 14053-14060 (2001).
2. Meyer zu Heringdorf, D., Himmel, H.M., and Jakobs, K.H. *Biochim. Biophys. Acta* **1582(1-3)**, 178-189 (2002).
3. Nixon, G.F., Mathieson, F.A., and Hunter, I. *Prog. Lipid Res.* **47(1)**, 62-75 (2008).
4. Rodriguez-Lafrasse, C. and Vanier, M.T. *Neurochem. Res.* **24(2)**, 199-205 (1999).

#### 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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