

## N-Stearoyl Ceramide-1-Phosphate, ammonium salt (C18 C1P)

Catalog number: S-5018

Molecular Formula:  $C_{36}H_{75}N_2O_6P$

MW: 662.96

CAS: 202063-34-1 (free acid), 384835-48-7 (ammonium salt)

Alternate Name: C1P, Ceramide-1-Phosphate(d18:1/18:0), CerP(d18:1/18:0)

Solubility:  $CHCl_3$ :MeOH:H<sub>2</sub>O (10:15:1) >1 mg/mL

Storage and Handling: Store dry at -20 °C. Stock solutions should be stored frozen (-20 °C or below).

Background: Ceramide 1-phosphate (C1P) is biosynthesized from ceramide by the intracellular enzyme Ceramide kinase. C1P inhibits cell apoptosis via inhibition of acid sphingomyelinase activity in contrast to ceramide which promotes apoptosis. C1P is important in inflammation, activating cytosolic phospholipase A2 alpha and releasing downstream inflammatory mediators. In addition, C1P is involved in DNA synthesis, mast cell degranulation and neutrophil phagocytosis.

References: 1) N.F. Lamour *et al.* "Ceramide kinase and the ceramide-1-phosphate/cPLA2alpha interaction as a therapeutic target." *Curr. Drug Targets*, 2008, *9*, 674-682,

2) B.J. Pettus *et al.* "Ceramide 1-phosphate is a direct activator of cytosolic phospholipase A2" *J. Biol. Chem.*, 2004, *279*, 11320-11326,

3) M. Levi, *et al.* "Distinct receptor-mediated activities in macrophages for natural ceramide-1-phosphate (C1P) and for phospho-ceramide analogue-1 (PCERA-1)" *Mol. Cell Endocrinol.*, 2010, *314*, 248-255.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

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