

# PRODUCT DATA SHEET

## Sphingosylphosphorylcholine

**Catalog No:** 1321, 1321-05

**Common Name:** *lyso*-Sphingomyelin, SPC  
(mixture of *D-erythro* and *L-threo* isomers); *lyso*-SM

**Source:** semisynthetic, bovine buttermilk

**Solubility:** chloroform/methanol, (2:1)

**CAS No:** 82970-80-7

**Molecular Formula:** C<sub>23</sub>H<sub>49</sub>N<sub>2</sub>O<sub>5</sub>P

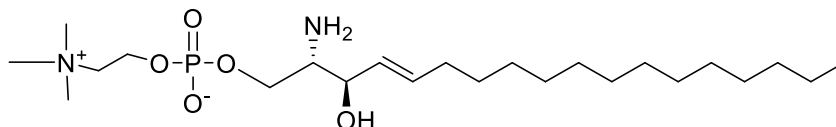
**Molecular Weight:** 465

**Storage:** -20°C

**Purity:** TLC > 98%

**TLC System:** chloroform/methanol/DI water/  
ammonium hydroxide,  
(60:40:7:3 by Vol.)

**Appearance:** solid



### Application notes:

Sphingosylphosphorylcholine (SPC) is a non-acylated sphingomyelin containing a mixture of *D-erythro* and *L-threo* sphingosine isomers and is ideal for the synthesis of well-defined sphingomyelin. Sphingomyelin has a phosphorylcholine head attached to a ceramide tail and is found in mammalian cell membranes, especially in the membranes of the myelin sheath and has been linked to a number of diseases.<sup>1,2</sup> It has been found that SPC can help devise new ways of treating inflammatory kidney diseases and has been found to trigger proteins known to reduce inflammation. SPC has also been shown to cause an increase in urine production in the kidneys with an abnormal accumulation of salt in the urine.<sup>3</sup>

### Selected References:

1. M. Schmuth, M. Q. Man, F. Weber, W. Gao, K. R. Feingold, P. Fritsch, P. M. Elias, W. M. Holleran. Permeability barrier disorder in Niemann-Pick disease: sphingomyelin-ceramide processing required for normal barrier homeostasis. *J Invest Dermatol*, Sep;115(3):459-66, 2000
2. C. St Clair, E. R. Norwitz, K. Woensdregt, M. Cackovic, J. A. Shaw, H. Malkus, R. A. Ehrenkranz, J. L. Illuzzi. The probability of neonatal respiratory distress syndrome as a function of gestational age and lecithin/sphingomyelin ratio. *Am J Perinatol*, Sep;25(8):473-80, 2008. Epub 2008 Sep 4
3. Andrea Huwiler et al. "Sphingosylphosphorylcholine acts in an anti-inflammatory manner in renal mesangial cells by reducing interleukin-1 $\beta$ -induced prostaglandin E<sub>2</sub> formation" *Journal of Lipid Research*, Vol. 48 pp. 1985, 2007

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