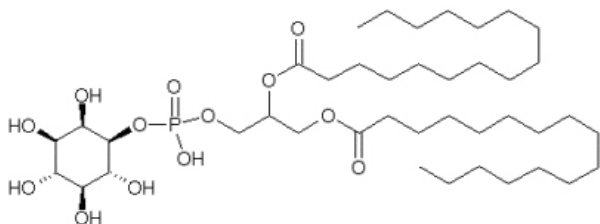


## SM

### Sphingomyelin porcine brain

Cat. No.	Amount
LI-007	5 mg



For *in vitro* use only  
 Quality guaranteed for 12 months  
 Store at -20°C

#### Form

Lyophilized.

#### Solubility

Soluble in Chloroform, Methanol, hot Ethanol, hot Ethyl Acetate.  
 Insoluble in Ether, Acetone, Water.

#### Molecular Formula

$C_{41}H_{83}N_2O_6P$ .

#### Molecular Weight

731.09 g/mol

#### Purity

≥99%

#### Description

Sphingomyelin has been shown to be a source of bioactive compounds. This sphingolipid is located mostly in the outer layer of the plasma membrane and in the membranes of organelles. Sphingomyelin located in the plasma membrane is hydrolyzed into ceramide and phosphorylcholine. Ceramide is the principal second messenger in the sphingomyelin transmembrane signaling pathway. Products of ceramide metabolism, namely, sphingosine, sphingosine-1-phosphate, and ceramide-1-phosphate, also exert broad biological effects. The major effects of ceramide are induction of differentiation, inhibition of proliferation, regulation of inflammatory processes, and induction of apoptosis.

SM can be used in a lipid mix for PI3K lipid kinase activity assay together with PI, PIP, PIP<sub>2</sub>, PE, PS and PC.

#### Selected References:

- Wymann (2003) Phosphoinositide 3-kinase signalling – which way to target? *Trend Pharmacol. Sci.* **24**:323.  
 Hannun (1994) The sphingomyelin cycle and the second messenger function of ceramide. *J. Biol. Chem.* **269**:3125.  
 Gorski *et al.* (2002) The sphingomyelin-signaling pathway in skeletal muscles and its role in regulation of glucose uptake. *Ann. N. Y. Acad. Sci.* **967**:236.