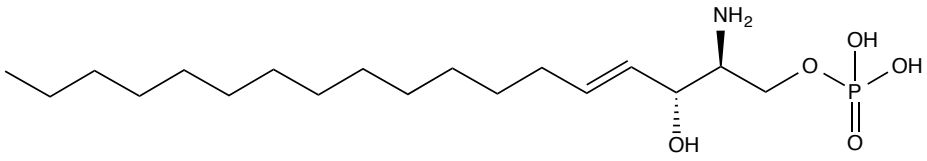
Catalog # 10-4526
D-erythro-Sphingosine-1-phosphate

CAS# 26993-30-6

Lot # FBM2079



Sphingosine-1-phosphate is an endogenous sphingolipid metabolite known to be involved in many cellular responses including angiogenesis, vascular maturation, cardiac development and immunity. These effects are mediated through a family of 5 G-protein-coupled receptors.[1,2,3]

1) Spiegel and Milstien (2003) *Sphingosine-1-phosphate: an enigmatic signaling lipid* Nat.Rev.Mol.Cell Biol. **4** 397
2) Rosen *et al*. (2009) *Sphingosine-1-phosphate receptor signaling* Annu.Rev.Biochem. **78** 743
3) Maceyka *et al.* (2012) *Sphingosine-1-phosphate signaling and its role in disease* Trends Cell Biol. **22** 50

PHYSICAL DATA

Molecular Weight:	379.47
Molecular Formula:	$C_{18}H_{38}NO_5P$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	See attached solubilization protocol
Physical Description:	White to off-white solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 2 months.

Focus Biomolecules LLC 400 Davis Dr. Suite 600 Plymouth Meeting, PA 19462

www.focusbiomolecules.com

Solubilizing Sphingosine-1-phosphate

To use sphingosine-1-phosphate in cell culture or aqueous based enzymatic experiments, we recommend using BSA to facilitate solubilization in water.

Prepare a 125µM stock in 4mg/ml BSA as follows: Initially suspend the sphingosine-1-phosphate in 100% anhydrous methanol (~ 1 mg/ml). This may require boiling (65°C), with occasional replacement of evaporated methanol. Crushing of solid prior to addition of methanol and crushing and stirring during heating is helpful. (Note: this process takes time, but will eventually produce a true clear stock solution.)

If you do not intend to use the all of the sphingosine-1-phosphate in one working day, aliquot desired amounts of methanol solution to tubes. Evaporate the solvent with a stream of nitrogen, swirling to deposit a thin film on the inside of the tube. Aliquots may be stored at -20 °C at this point.

When ready to use the aliquots can be re-suspended with water containing 4mg/ml of fatty acid free BSA. Warm to 37°C, with repeated vortexing or shaking until all the solid has been dissolved and no crystals remain. This may take 30-60 minutes or longer depending upon the amount of sphingosine-1-phosphate per tube, and the crystal size etc. Be patient, and allow plenty of time for prep before samples are needed. sphingosine-1-phosphate samples can be re-suspended the day before they are needed and stored in the freezer overnight. Some precipitate may be observed as the samples thaw, but these should re-dissolved after warming to 37°C for a few minutes.