



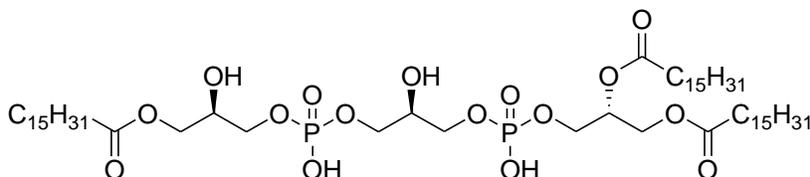
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Technical Data Sheet

For research use only
Not intended or approved for
diagnostic or therapeutic use.

Product Name: 16:0 Monolysocardiolipin

Product Number: L-M160



Molecular Formula: C₅₇H₁₁₂O₁₆P₂ **MW:** 1115.4

Solubility: CHCl₃, CH₃OH > 1 mg/mL

Storage: Monolysocardiolipin (MCL) is stable for at least one year when stored as a solid, protected from moisture, and light at -20°C. Reconstitute with methanol and dilute with water or neutral pH, buffered salt solutions, i.e. PBS, TBS, etc. Should be stored in glass containers to prevent material loss due to adsorption to the vessel surface. Storage in basic (pH > 9) or acidic (pH < 4) buffers will result in slow decomposition of the product. After reconstitution, solutions of MCL should be flash frozen in liquid nitrogen and stored at -20°C between uses. MCL is stable for at least three months when handled in this way. Repeated freeze/thaw cycles do not affect MCL. Do not store reconstituted MCL, at 4°C for more than 2-3 days.

Field of Interest: Cardiolipin (CL) is an important component in prokaryotic and in eukaryotic inner mitochondrial membranes.¹ In humans, CL is made by cardiolipin synthase from phosphatidylglycerol and cytidinediphosphate-diacylglycerol.² Monolysocardiolipin is an intermediate in CL remodeling, and acetyl transferase tafazzin mutations impairing linoleic acid transfer to MCL are considered the main reason of Barth syndrome.³ Autoantibodies to CL have been found in patients with anti-phospholipid syndrome and lupus.⁴ Trispalmitoyl MCL is a stable, synthetic analog of this rare and interesting phospholipid.

References:

1. Schlame M, Horvath L, Vigh L. Relationship between lipid saturation and lipid-protein interaction in liver mitochondria modified by catalytic hydrogenation with reference to cardiolipin molecular species. *Biochem J* 1990;265:79-85.
2. Houtkooper RH, Vaz FM. Cardiolipin, the heart of mitochondrial metabolism. *Cell Mol Life Sci* 2008;65:2493-506.
3. Xu Y, Malhotra A, Ren M, Schlame M. The enzymatic function of tafazzin. *J Biol Chem* 2006;281:39217-24.
4. McNeil HP, Simpson RJ, Chesterman CN, Krilis SA. Anti-phospholipid antibodies are directed against a complex antigen that includes a lipid-binding inhibitor of coagulation: beta 2-glycoprotein I (apolipoprotein H). *Proc Natl Acad Sci U S A* 1990;87:4120-4.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. Monolysocardiolipin 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.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.