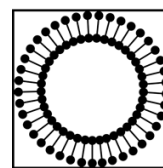


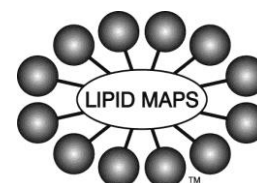
**Cardiolipin Internal Standard Mixture I**

Contains 4 Cardiolipin Compounds

LIPIDMAPS™ Compound ID: RF0000000786


**Avanti**<sup>®</sup>  
 POLAR LIPIDS, INC.

Storage: -20° C (Freezer)  
 Manufacture Date: May 24, 2014  
 Expiration Date: One year from date of receipt  
 Physical Form: Methanol Solution (1ml per vial)  
 Lot Number: LM6003-LM39-199A  
 MLOT: 6447WAA199

**Cardiolipin Internal Standard Mixture I Components**

LipidMAPS™ ID	Compound Name	Exact Mass (Proton Form)
LMGP12010002	1'-[1,2-di-(15Z-tetracosenoyl)-sn-glycero-3-phospho],3'-[1-(15Z-tetracosenoyl),2-(9Z-tetradecenoyl)-sn-glycero-3-phospho]-sn-glycerol (Ammonium salt)	1653.25
LMGP12010003	1'-[1,2-di-(9Z-tetradecenoyl)-sn-glycero-3-phospho],3'-[1-(9Z-tetradecenoyl),2-(10Z-pentadecenoyl)-sn-glycero-3-phospho]-sn-glycerol (Ammonium salt)	1246.80
LMGP12010004	1'-[1,2-dipentadecanoyl-sn-glycero-3-phospho],3'-[1-pentadecanoyl,2-(9Z-hexadecenoyl)-sn-glycero-3-phospho]-sn-glycerol (Ammonium salt)	1308.91
LMGP12010005	1'-[1,2-di-(13Z-docosenoyl)-sn-glycero-3-phospho],3'-[1-(13Z-docosenoyl),2-(9Z-tetradecenoyl)-sn-glycero-3-phospho]-sn-glycerol (Ammonium salt)	1569.16

**Certificate of Analysis**

Test	Limits	Result
Mass Spec	Each Compound Consistent with Structure	Pass
HPLC/ELSD	Each Compound NLT 95% Purity (AUC)	Pass
GC-FAME	Each Compound NLT 99% Purity (AUC)	Pass
Phosphorus NMR	Each Compound Consistent with Structure	Pass
Proton NMR	Each Compound Consistent with Structure	Pass
Quantitative LC/MS of Mixture		
Compound Name	Concentration (µg/ml)	Concentration (µM)
24:1(3)-14:1 CA	102.00	61.65
14:1(3)-15:1 CA	100.83	80.82
15:0(3)-16:1 CA	96.66	73.80
22:1(3)-14:1 CA	106.41	67.77

Approved by:

Avanti Polar Lipids, Inc. 700 Industrial Park Drive, Alabaster, AL 35007-9105, USA

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