

Certificate of Analysis

MPLA (PHAD®)

Monophosphoryl Lipid A (Synthetic) (PHAD®)

699800P-5mg Page 1 of 1

Physical State Powder Storage -20°C

Expiration Date One year from date of receipt

M Lot Number 5086PHA033

Avanti Lot Number 699800P-5MG-A-033

ANALYSIS	SPECIFICATION	RESULTS
Physical Examination	Powder : White solid which contains no foreign matter	Pass
TLC (75:25:3 Chloroform: Methanol: Water)	>99% Purity Ninhydrin: negative Iodine: one major spot Phosphorus: positive Charring: positive Water dip: one major spot	All Pass
Proton NMR	NMR spectrum consistent with structure	Consistent with structure
TOF-MS	$[M-NH_4]^- = 1745.469 \pm 1 \text{ amu}$	[M-NH ₄] ⁻ = 1744.27 amu
HPLC-ELSD	NLT 99% (AUC)	100% (AUC)

Approved By: Ondiono Thomas