

Certificate of Analysis

3A-MPLA

Monophosphoryl Tri-acyl Lipid A (Synthetic)

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Molecular Weight 1100.4

Chemical Formula $C_{54}H_{106}N_3O_{17}P$

Physical State Powder Storage -20°C

Expiration Date One year from date of receipt

M Lot Number 5088PGB013

Avanti Lot Number 699851P-1MG-B-013

ANALYSIS	SPECIFICATION	RESULTS
Physical examination	Powder : White solid which contains no foreign matter.	Pass
TLC (65:35:8 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
Phosphorus NMR	NMR spectrum consistent with structure	Consistent with structure
Mass Spectroscopy	[M-NH ₄] ⁻ = 1082.4 ± 1 amu	[M-NH ₄] ⁻ = 1082.3 amu

Approved by: