

Certificate of Analysis

3A-MPLA

Monophosphoryl Tri-acyl Lipid A (Synthetic)

699851P-CONF Page 1 of 1

Molecular Weight 1100.4

 $\begin{array}{ll} \textbf{Chemical Formula} & C_{54}H_{106}N_3O_{17}P \end{array}$

Physical State Powder Storage -20°C

Expiration Date One year from date of receipt

M Lot Number 5088PWA014

Avanti Lot Number 699851P-CONF-A-014

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] ⁻ = 1081.9 amu

Approved by: