Product Data Sheet

Product Name: MPLA
Cat. No.: GC18478

Chemical Properties

Cas. No.	1246298-63-4		
Chemical Name	N/A		
SMILES	N/A		
Formula	$C_{96}H_{180}N_2O_{22}P.NH_4$	M.Wt	1763.5
Solubility	DMSO : 25 mg/mL (14.18 mM; ultrasonic and warming and heat to 60°C)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	MPLA		

Background

MPLA is a synthetic derivative of lipid A, a component of bacterial LPS, that is hexa-acylated in contrast to lipid A monophosphoryl from S. minnesota R595 , which can be hepta-, hexa-, or penta-acylated. MPLA is an agonist of toll-like receptor 4 (TLR4). Intramuscular injection of MPLA (5 µg/100 µl) in mice increases injection site transcription of MyD88- and TRIF-dependent genes as well as genes encoding cytokines and cytokine receptors, chemokines, and molecules involved in the complement pathway and antigen presentation. It also increases the number of CD3+ T cells and CD11c+ GR1+ dendritic cells recruited to draining lymph nodes and increases serum levels of CCL2/MCP-1, CXCL1, CSF3, IL-6, and IL-10 by more than 10-fold compared to control animals. Emulsions containing MPLA have demonstrated efficacy as vaccine adjuvants in several mouse models, enhancing immune responses to HIV gp140 antigen and providing protection against M. tuberculosis infection.

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