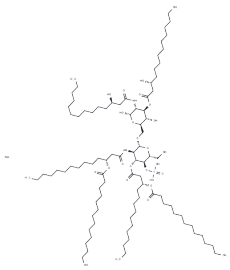
Data Sheet (Cat.No.T38636)

TargetMol

Monophosphoryl lipid A

Chemical Properties



CAS No. : 1246298-63-4

Formula: C96H184N3O22P

Molecular Weight: 1763.501

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Monophosphoryl lipid A (MPLA), also known as Glucopyranosyl lipid A, is an agonist of toll-like receptor 4. Derived from the cell wall of nonpathogenic Salmonella, MPLA is a valuable compound for research on immunization and vaccine development.
Targets(IC50)	Others,TLR
In vitro	Monophosphoryl lipid A, at a concentration of 100 μg/ml for 2 hours, induces NF-κB activation and modulates TLR2 in dendritic cells, as evidenced by Western Blot Analysis. The same compound, ranging from 5 to 100 μg/ml over 24 hours, stimulates IL-12 production in human dendritic cells. Furthermore, increasing Monophosphoryl lipid A levels from 0.1 to 1 μg results in a higher percentage of matured bone marrow-derived dendritic cells (BMDCs). It also enhances cell surface markers on dendritic cells and boosts T cell responses, including the upregulation of calcium mobilization in activated CD4 T cells.
In vivo	The synthesized Monophosphoryl lipid A activates antigen-presenting cells (APCs) and amplifies the production of Th1- and Th2-specific immune responses in mice[2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.5671 mL	2.8353 mL	5.6705 mL
5 mM	0.1134 mL	0.5671 mL	1.1341 mL
10 mM	0.0567 mL	0.2835 mL	0.5671 mL
50 mM	0.0113 mL	0.0567 mL	0.1134 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Cheng R, et al. Recombination Monophosphoryl Lipid A-Derived Vacosome for the Development of Preventive Cancer Vaccines. ACS Appl Mater Interfaces. 2020;12(40):44554-44562.
Ismaili J, et al. Monophosphoryl lipid A activates both human dendritic cells and T cells. J Immunol. 2002;168(2): 926-932.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481