Data Sheet (Cat.No.T84640)

TargetMol

9A1P9

Chemical Properties

CAS No. : 2760467-57-8

Formula: C27H58NO4P

Molecular Weight: 491.73

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	9A1P9 is a multi-tailed ionizable cationic lipid featuring multiple hydrophobic chains and a protonatable headgroup. Under acidic conditions, 9A1P9 enhances electrostatic interactions with nucleic acids, promotes endosomal escape, and improves intracellular mRNA delivery efficiency. 9A1P9 is commonly used in the construction of lipid nanoparticle (LNP) systems and in delivery mechanism studies.
Targets(IC50)	Liposome
In vitro	Compared to neutral pH, 9A1P9 exhibits higher membrane-lysing activity in acidic intracellular compartments [2].
In vivo	9A1P9 enables efficient mRNA delivery in mice, with iPLNP formulations prepared at a molar ratio of 9A1P9 to Fluc mRNA of 11,622:1, and a weight ratio of 9A1P9 to RNA of 18:1 [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0336 mL	10.1682 mL	20.3364 mL
5 mM	0.4067 mL	2.0336 mL	4.0673 mL
10 mM	0.2034 mL	1.0168 mL	2.0336 mL
50 mM	0.0407 mL	0.2034 mL	0.4067 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

Godbout K, et al. Delivery of RNAs to Specific Organs by Lipid Nanoparticles for Gene Therapy. Pharmaceutics. 2022 Oct 7;14(10):2129.

Liu S, et al. Membrane-destabilizing ionizable phospholipids for organ-selective mRNA delivery and CRISPR-Cas gene editing. Nat Mater. 2021 May;20(5):701-710.

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