Data Sheet (Cat.No.TYD-04046)

TargetMol

DMG-pSar25

Chemical Properties

CAS No. : 2936622-30-7

Formula:

Molecular Weight:

Storage: Store at low temperature
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	DMG-pSar25 is a lipid composed of a DMG unit conjugated to a pSar25 polymer. DMG-pSar25 is utilized in RNA delivery research involving lipid nanoparticle formulation, where DMG-pSar25 serves as a PEG alternative and is studied for its effects on mRNA transfection efficiency, nanoparticle stability, and safety profile modulation in nucleic acid delivery systems.
Targets(IC50)	Others
In vitro	Methods: Lipid nanoparticles were prepared using DMG-pSar25, ALC-0159 and DMG-PEG2000 respectively. C2C12 and Hep3B cells were treated with these nanoparticles for 18 hours, and mRNA delivery efficiency as well as cell viability were detected. Results: 1.Compared with ALC-0159 control, DMG-pSar25 improved the mRNA delivery efficiency of ALC-0315-based lipid nanoparticles, with no significant change in cell viability. 2.When applied to SM-102-based lipid nanoparticles, DMG-pSar25 achieved comparable mRNA delivery efficiency and cell viability relative to DMG-PEG2000 control [1].
In vivo	Methods: Healthy mice received a single intramuscular injection of 0.06 μg mRNA. The polyethylene glycol lipids in two types of lipid nanoparticles (LNPs) were replaced with DMG-pSar25. The in vivo mRNA delivery efficiency, immunogenicity and anti-PEG antibody production were evaluated. Results: After replacement in ALC-0315-based LNPs, the total in vivo mRNA delivery flux in mice increased by more than 5 times. For SM-102-based LNPs, the delivery efficiency was comparable to that of conventional PEG-modified LNPs. The two formulations exhibited similar immunogenicity, and DMG-pSar25 did not induce anti-PEG antibody production [1].

Solubility Information

Solubility	Ethanol: 40 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

Kang DD. Strategies to Design and Refine Lipid Nanoparticles for Functional mRNA Delivery. The Ohio State University. 2025.

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