

DSG-PEG (MW 2000)

Chemical Properties

CAS No. : 308805-39-2

Formula:

Molecular Weight:

Storage: Keep away from direct sunlight,Keep away from moisture,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	DSG-PEG (MW 2000) is a polyethylene glycol-conjugated lipid (PEG-lipid) primarily used as a key excipient in the preparation of lipid nanoparticles (LNPs) and liposomes. Its distearoyl glycerol anchor provides robust membrane anchoring within lipid bilayers. In nucleic acid delivery systems, DSG-PEG (MW 2000) modulates particle size, circulation stability, and cellular interaction kinetics, serving as a critical component for optimizing mRNA delivery efficiency and tissue targeting.
Targets(IC50)	Liposome
In vitro	DSG-PEG (MW 2000) yields larger mRNA-LNPs than DMG-PEG, favoring alveolar deposition upon inhalation. Its slow dissociation enhances protein expression (e.g., luciferase), but the stable anchoring may limit applicability for rapid intracellular delivery [1][2].

Solubility Information

Solubility	DMSO: 18 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

- Geng L, et al. Influence of lipid composition of messenger RNA-loaded lipid nanoparticles on the protein expression via intratracheal administration in mice. *Int J Pharm.* 2023 Apr 25;637:122896.
- Borah A, et al. From in vitro to in vivo: The Dominant role of PEG-Lipids in LNP performance. *Eur J Pharm Biopharm.* 2025 Jul;212:114726.

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