

PRODUCT INFORMATION



DSPE-PEG(2000)-Mannose

Item No. 44722

CAS Registry No.: 1829524-73-3
Formal Name: α -[[[9R)-6-hydroxy-6-oxido-1,12-dioxo-9-[[1-oxooctadecyl)oxy]-5,7,11-trioxa-2-aza-6-phosphanonacos-1-yl]- ω -[2-[[[4-(α -D-mannopyranosyloxy)phenyl]amino]thioxomethyl]amino]ethoxy]-poly(oxy-1,2-ethanediyl)

Synonyms: 1,2-Distearoyl-*sn*-glycero-3-PE-Polyethylene Glycol-2000-Mannose, 1,2-Distearoyl-*sn*-glycero-3-Phosphoethanolamine-Polyethylene Glycol-2000-Mannose, DSPE-PEG2000-Mannose, 1,2-DSPE-PEG(2000)-Mannose

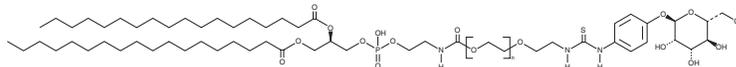
MF: $(C_2H_4O)_n C_{57}H_{102}N_3O_{16}PS$

Purity: $\geq 95\%$

Supplied as: A solid

Storage: $-20^\circ C$

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DSPE-PEG(2000)-mannose is supplied as a solid. A stock solution may be made by dissolving the DSPE-PEG(2000)-mannose in the solvent of choice, which should be purged with an inert gas. DSPE-PEG(2000)-mannose is sparingly soluble (1-10 mg/ml) in ethanol and slightly soluble (0.1-1 mg/ml) in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of DSPE-PEG(2000)-mannose can be prepared by directly dissolving the solid in aqueous buffers. DSPE-PEG(2000)-mannose is slightly soluble (0.1-1 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

DSPE-PEG(2000)-mannose is a PEGylated and mannosylated form of 1,2-distearoyl-*sn*-glycero-3-PE (1,2-DSPE; Item No. 15095) that has been used in the generation of liposomes and lipid nanoparticles (LNPs) for the delivery of peptides, oligodeoxynucleotides, and siRNA *in vitro* and *in vivo*.^{1,2} Fluorescently labeled LNPs containing DSPE-PEG(2000)-mannose selectively accumulate in the liver and spleen over the brain, lungs, heart, kidney, and pancreas in mice.¹ Immunization with liposomes containing DSPE-PEG(2000)-mannose and encapsulating human papilloma virus type 16 (HPV16) E7 peptide and CpG oligodeoxynucleotide as an adjuvant decrease tumor size, intratumoral CD4⁺ or CD8⁺ T cells, and intratumoral angiogenesis in a murine lung cancer model using TC-1 cells, which express HPV16 E6 and E7 peptides.²

References

1. Yeo, S., Lee, H., Lee, J., *et al.* *Int. J. Pharm.* **662**, 124540 (2024).
2. Zhao, Y., Wang, H., Yang, Y., *et al.* *Int. J. Nanomedicine* **15**, 9571-9586 (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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