



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# PRODUCT INFORMATION



## DSPE-PEG(2000)-Mannose

Item No. 38914

**CAS Registry No.:** 1829524-73-3  
**Formal Name:**  $\alpha$ -[[[9R)-6-hydroxy-6-oxido-1,12-dioxo-9-[[[1-oxooctadecyl)oxy]-5,7,11-trioxa-2-aza-6-phosphanonacos-1-yl]- $\omega$ -[2-[[[4-( $\alpha$ -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, 1,2-DSPE-PEG(2000)-Mannose

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

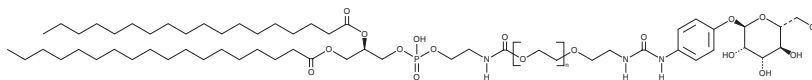
**Purity:**  $\geq 95\%$

**Supplied as:** A solution in ethanol

**Storage:**  $-20^\circ C$

**Stability:**  $\geq 1$  year

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 solution in ethanol. 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 soluble (10 mg/ml) in ethanol and slightly soluble (0.1-1 mg/ml) in DMSO and dimethyl formamide.

### 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*.<sup>1,2</sup> 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.<sup>2</sup> 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<sup>+</sup> or CD8<sup>+</sup> T cells, and intratumoral angiogenesis in a murine lung cancer model using TC-1 cells, which express HPV16 E6 and E7 peptides.<sup>1</sup>

### References

1. Zhao, Y., Wang, H., Yang, Y., *et al.* Mannose-modified liposome co-delivery of human papillomavirus type 16 E7 peptide and CpG oligodeoxynucleotide adjuvant enhances antitumor activity against established large TC-1 grafted tumors in mice. *Int. J. Nanomedicine* **15**, 9571-9586 (2020).
2. Yeo, S., Lee, H., Lee, J., *et al.* Optimization of polyethylene glycol shielding and mannose density on the lipid nanoparticles for efficient delivery to macrophages and spleens. *Int. J. Pharm.* **662**, 124540 (2024).

#### 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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