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PRODUCT INFORMATION



DSPE-PEG(2000) Maleimide

Item No. 42013

CAS Registry No.: 185844-12-6

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-[[3-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxopropyl]amino]ethoxy]poly(oxy-1,2-ethanediyl)

Synonyms: 1,2-Distearoyl-*sn*-glycero-3-Phosphoethanolamine-PEG-2000 Maleimide, 1,2-Distearoyl-*sn*-glycero-3-Phosphatidylethanolamine-N-[maleimide(polyethylene glycol)-2000], 1,2-Distearoyl-*sn*-glycero-3-Phosphoethanolamine-N-[maleimide(polyethylene glycol)-2000], 1,2-DSPE-PEG(2000)-Mal, 1,2-DSPE-PEG(2000) Maleimide, DSPE-PEG-Mal, 18:0/18:0-PE-PEG(2000) Maleimide, PE-18:0/18:0-PEG(2000) Maleimide

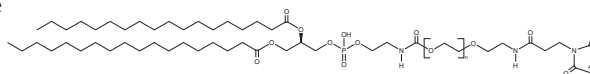
MF: $(C_2H_4O)_n C_{51}H_{92}N_3O_{13}P$

Purity: $\geq 90\%$

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

DSPE-PEG(2000) maleimide is slightly soluble (0.1- 1 mg/ml) in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

DSPE-PEG(2000) maleimide is a PEGylated derivative of 1,2-distearoyl-*rac*-3-PE (DSPE). It has been used in the synthesis of lipid nanoparticles (LNPs) for the delivery of siRNA or small molecule anticancer agents *in vitro* and *in vivo*.¹⁻⁴ LNPs containing DSPE-PEG(2000) maleimide and encapsulating siRNAs targeting mRNA encoding p53 and K-RAS induce tumor regression in a PANC-1 pancreatic ductal adenocarcinoma mouse xenograft model.¹

References

1. Wang, Q., Zhang, Z., Wang, Z., *et al.* *Adv. Funct. Mater.* **34**(29), 2400485 (2024).
2. Gao, J., Liu, W., Xia, Y., *et al.* *Biomaterials* **32**(13), 3459-3470 (2011).
3. van der Meel, R., Oliveira, S., Altintas, I., *et al.* *J. Control. Release* **159**(2), 281-289 (2012).
4. Zhang, Y., Tian, Z., Zhao, X., *et al.* *Colloid. Surface. A* **571**, 72-79 (2019).

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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