

PRODUCT INFORMATION



DSPE-PEG(2000)-Biotin

Item No. 41914

Formal Name: α -[(9R)-6-hydroxy-6-oxido-1,12-dioxo-9-[[1-oxooctadecyl]oxy]-5,7,11-trioxo-2-aza-6-phosphanonacos-1-yl]- ω -[2-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]ethoxy]-poly(oxy-1,2-ethanediyl)

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

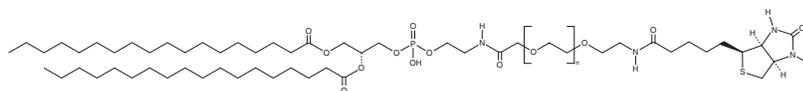
MF: $(C_2H_4O)_n C_{54}H_{100}N_4O_{12}PS$

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

Description

DSPE-PEG(2000)-biotin is a PEGylated and biotinylated form of 1,2-distearoyl-*sn*-glycero-3-PE (Item No. 15095).^{1,2} It has been used in the generation of liposomes for the delivery of small molecules *in vitro* and *in vivo* and for fluorescently labeling nanostructured lipid carriers (NLCs). DSPE-PEG(2000)-biotin has also been used in the formation of micelles as a precursor to immobilized liposomes for biolayer interferometry binding assays.³ Liposomes containing DSPE-PEG(2000)-biotin and encapsulating doxorubicin (Item No. 15007) and quercetin (Item No. 10005169) are cytotoxic to MCF-7/adr multidrug-resistant breast cancer cells *in vitro* and reduce tumor growth in an MCF-7/adr mouse xenograft model.¹ NLCs containing DSPE-PEG(2000)-biotin have been fluorescently labeled using avidin-conjugated FITC.²

References

1. Zhang, J., Luo, Y., Zhao, X., *et al.* Co-delivery of doxorubicin and the traditional Chinese medicine quercetin using biotin-PEG2000-DSPE modified liposomes for the treatment of multidrug resistant breast cancer. *RSC Adv.* **6**(114), 113173-113184 (2016).
2. Liu, D., Liu, F., Liu, Z., *et al.* Tumor specific delivery and therapy by double-targeted nanostructured lipid carriers with anti-VEGFR-2 antibody. *Mol. Pharm.* **8**(6), 2291-2301 (2011).
3. Wallner, J., Lhota, G., Schosserer, M., *et al.* An approach for liposome immobilization using sterically stabilized micelles (SSMs) as a precursor for bio-layer interferometry-based interaction studies. *Colloids Surf B Biointerfaces* **154**, 186-194 (2017).

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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