

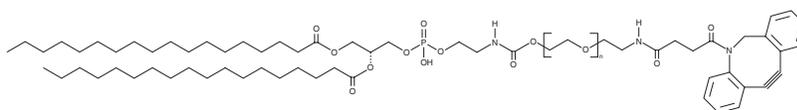
PRODUCT INFORMATION



DSPE-PEG(2000)-DBCO

Item No. 44696

CAS Registry No.: 1895854-56-4
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-[[4-(11,12-didehydrodibenz[b,f]azocin-5(6H)-yl)-1,4-dioxobutyl]amino]ethoxy]-poly(oxy-1,2-ethanediyl)]
Synonyms: 1,2-Distearoyl-*sn*-glycero-3-phosphoethanolamine-N-[dibenzocyclooctyl(polyethylene glycol)-2000], DSPE-PEG₂₀₀₀-DBCO, DSPE-PEG(2000)-dibenzocyclooctyne
MF: (C₂H₄O)_nC₆₃H₁₀₀N₃O₁₂P
Purity: \geq 98%
Supplied as: A solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

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

Description

DSPE-PEG(2000)-DBCO is a PEGylated and clickable form of 1,2-distearoyl-*sn*-glycero-3-PE (1,2-DSPE; Item No. 15095) that has been used in the formation of liposomes and lipid nanodiscs.^{1,2} It has been used in the generation of liposome-anchored macrophages for the delivery of a cholesterol-conjugated toll-like receptor 7/8 (TLR7/8) agonist to activate them into M1-like macrophages, which phagocytose 4T1 breast cancer cells *in vitro*.¹ Lipid nanodiscs containing DSPE-PEG(2000)-DBCO have been conjugated to a clickable form of DOTA (Item No. 43655) and radiolabeled with copper-64 (⁶⁴Cu) for PET imaging of tumors in mice.² DSPE-PEG(2000)-DBCO has also been used as a reactive anchor lipid by direct incorporation into the plasma membranes of RAW 264.7 cells.³

References

1. Yoo, Y.J., Eun, R., Park, H.M., *et al.* Nanoengineered macrophages armed with TLR7/8 agonist enhance remodeling of immunosuppressive tumor microenvironment. *Small* **20**(13), e2307694 (2024).
2. Wong, P., Li, L., Chea, J., *et al.* Antibody targeted pet imaging of ⁶⁴Cu-DOTA-anti-CEA PEGylated lipid nanodiscs in CEA positive tumors. *Bioconjug. Chem.* **31**(3), 743-753 (2020).
3. Vabbilisetty, P., Boron, M., Nie, H., *et al.* Chemical reactive anchoring lipids with different performance for cell surface re-engineering application. *ACS Omega* **3**(2), 1589-1599 (2018).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM