

Product Data Sheet

Product Name: DSPE-PEG(2000)-Mannose

Cat. No.: GC91884

Chemical Properties

Cas. No. 1829524-73-3

Chemical 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)

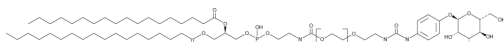
SMILES O=C(NCCOP(O)(OCC(COC(CCCCCCCCCCCCCCCCCC)=O)OC(CCCCCCCCCCCCCCCCCC)=O)=O)OCCOCCNC(NC1=CC=C(OC2[C@@H](O)[C@@H](O)[C@H](O)[C@@H](CO)O2)C=C1)=S

Formula $(C_2H_4O)_n C_{57}H_{102}N_3O_{16}PS$ M.Wt 2000Da

Solubility DMF: Slightly soluble: 0.1-1 mg/ml, DMSO: Slightly soluble: 0.1-1 mg/ml, Ethanol: Soluble: 10 mg/ml
Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure 

Background

DSPE-PEG(2000)-mannose is a PEGylated and mannosylated form of 1,2-distearoyl-*rac*-glycero-3-PE (DSPE) that has been used in the generation of liposomes and mixed micelles for the delivery of anticancer agents to tumor-associated macrophages (TAMs) *in vitro* and *in vivo*.^{1,2} Fluorescently labeled mixed micelles containing DSPE-PEG(2000)-mannose selectively accumulate in the liver and tumor in a 4T1 murine mammary carcinoma model.² Mixed micelles containing DSPE-PEG(2000)-mannose and encapsulating dasatinib decrease the viability of TAMs isolated from a 4T1 mammary tumor but not RAW 264.7 macrophages. DSPE-PEG(2000)-mannose-containing and dasatinib-

Caution: Product has not been fully validated for medical applications. For research use only.

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encapsulating mixed micelles also reduce tumor volume in a 4T1 murine mammary carcinoma model.

References:

- [1]. Peng, H., Chen, B., Huang, W., et al. Reprogramming Tumor-Associated Macrophages To Reverse EGFR T790M Resistance by Dual-Targeting Codelivery of Gefitinib/Vorinostat Nano Lett. 17(12)7684-7690(2017).
- [2]. Zhang, X., Zang, X., Qiao, M., et al. Targeted delivery of dasatinib to deplete tumor-associated macrophages by mannoseylated mixed micelles for tumor immunotherapy ACS Biomater. Sci. Eng. 6(10)5675-5684(2020).

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