

Product Data Sheet

Product Name: PEG2000-DSPE

Cat. No.: GC64192

Chemical Properties

Cas. No. 892144-24-0

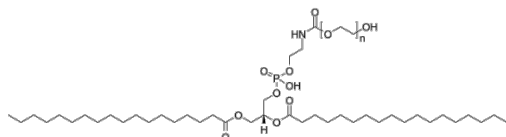
Formula $(C_2H_4O)_n C_{42}H_{82}NO_{10}P$ M.Wt

Solubility DMSO : 12.5 mg/mL (4.45 mM; ultrasonic and warming and heat to 60°C) Storage 4°C, away from moisture and light

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

PEG2000-DSPE is a PEG polymer containing DSPE and amine end groups that exhibits micelle-like properties [1]. PEG2000-DSPE has been widely used in the preparation of polymer micelles and liposomes to encapsulate doxorubicin, which can prolong the circulation time in the body and thereby increase the tumor uptake rate [2]. The introduction of PEG2000-DSPE will enhance the lateral repulsive force of the lipid bilayer surface through extensive hydration around the head group, not

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only affecting the particle size, but also influencing the lamellar structure of the vesicles [3]. PEG2000-DSPE has been widely used to modify the surface of nanoparticles or proteins, resisting the degradation by blood proteins and improving the pharmacokinetic behavior of nanocrystals[4].

References:

- [1] Remsberg C M, Zhao Y, Takemoto J K, et al. Pharmacokinetic evaluation of a DSPE-PEG2000 micellar formulation of ridaforolimus in rat[J]. *Pharmaceutics*, 2012, 5(1): 81-93.
- [2] Takayama R, Inoue Y, Murata I, et al. Characterization of nanoparticles using DSPE-PEG2000 and soluplus[J]. *Colloids and Interfaces*, 2020, 4(3): 28.
- [3] Sriwongsitanont S, Ueno M. Effect of a PEG lipid (DSPE-PEG2000) and freeze-thawing process on phospholipid vesicle size and lamellarity[J]. *Colloid and Polymer Science*, 2004, 282(7): 753-760.
- [4] Wang D, Wang Y, Zhao G, et al. Improving systemic circulation of paclitaxel nanocrystals by surface hybridization of DSPE-PEG2000[J]. *Colloids and Surfaces B: Biointerfaces*, 2019, 182: 110337.

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