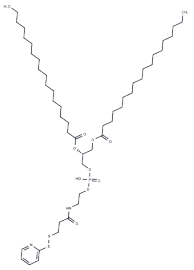
Data Sheet (Cat.No.T77286)

TargetMol

DSPE-SPDP

Chemical Properties



CAS No. : 144735-79-5

Formula: C49H89N2O9PS2

Molecular Weight: 945.34

Storage: Keep away from direct sunlight,Keep away from moisture,The compound is unstable in solution. Please use soon
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	DSPE-SPDP is a reactive phospholipid molecule. In aqueous environments, DSPE-SPDP can orient itself to form lipid bilayers or participate in the construction of lipid nanoparticles (LNPs). The SPDP functional group possesses disulfide exchange activity, allowing for the covalent conjugation of sulfhydryl-containing (-SH) biomolecules, such as antibodies, peptides, or siRNAs, to the surface of nanocarriers under physiological conditions.
Targets(IC50)	Liposome
In vitro	In vitro nanomedicine studies utilize DSPE-SPDP as a functional lipid component. Research demonstrates that nanoscale coordination polymers (NCPs) constructed using DSPE-SPDP can successfully conjugate targeting ligands, facilitating the synergistic delivery of chemotherapeutics and siRNAs in cisplatin-resistant ovarian cancer cell lines, such as OVCAR-3 [1].
In vivo	In vivo, nanocarriers surface-modified with DSPE-SPDP exhibit excellent stability in blood circulation. In animal models bearing cisplatin-resistant ovarian cancer xenografts, this delivery system significantly reduces tumor burden and eradicates resistant tumor lesions through the co-delivery of drugs and genetic materials [1].

Solubility Information

Solubility	DMSO: Soluble,The compound is unstable in solution. Please use soon. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0578 mL	5.2891 mL	10.5782 mL
5 mM	0.2116 mL	1.0578 mL	2.1156 mL
10 mM	0.1058 mL	0.5289 mL	1.0578 mL
50 mM	0.0212 mL	0.1058 mL	0.2116 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

He C, Poon C, Chan C, et al. Nanoscale coordination polymers codeliver chemotherapeutics and siRNAs to eradicate tumors of cisplatin-resistant ovarian cancer[J]. Journal of the American Chemical Society, 2016, 138(18): 6010-6019.