

DSPE-PEG2000-iRGD

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Keep away from direct sunlight

Storage:

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-PEG2000-iRGD is a functionalized lipid composed of DSPE, PEG chain and iRGD peptide targeting α - integrin. IRGD peptide binds to α - integrin and undergoes proteolysis in tumor microenvironment to generate CendR motif (CRGDK/R), which then interacts with neuropilin-1, thus endowing it with tumor targeting and tissue penetration ability, and is often used in the study of active molecule delivery.
Targets(IC50)	Complement System,Integrin,Liposome
In vitro	DSPE-PEG2000-iRGD is a PEG compound composed of DSPE and α - integrin targeting peptide (iRGD). IRGD peptide binds to α - integrin, and then the protein is hydrolyzed and cleaved in tumor to produce the interaction between CRGDK/R and Neuropin-1, which has the characteristics of tumor targeting and tumor penetration [1]. M-SAL-IRGD (DSPE-PEG2000 nano micelle coupled with IRGD) constructed by DSPE-PEG2000-iRGD is used for targeted delivery of Salinomycin to interfere with liver cancer cells and cancer stem cells [2].
In vivo	IRGD-LP-CUR-PIP constructed by DSPE-PEG2000-iRGD is a peptide liposome penetrated by tumor, which shows anti-tumor effect, mainly by significantly reducing tumor volume and increasing body weight and spleen index [3].

Solubility Information

Solubility	DMSO: 100 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

- Puig-Saus C, et al. iRGD tumor-penetrating peptide-modified oncolytic adenovirus shows enhanced tumor transduction, intratumoral dissemination and antitumor efficacy. *Gene Ther.* 2014 Aug;21(8):767-74.
- Mao X, et al. iRGD-conjugated DSPE-PEG2000 nanomicelles for targeted delivery of salinomycin for treatment of both liver cancer cells and cancer stem cells. *Nanomedicine (Lond).* 2015;10(17):2677-95.
- Wang Y, et al. The Antitumour Activity of a Curcumin and Piperine Loaded iRGD-Modified Liposome: In Vitro and In Vivo Evaluation. *Molecules.* 2023 Sep 9;28(18):6532.

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