

## DOTAP chloride

## Chemical Properties

CAS No. :	132172-61-3
Formula:	C <sub>42</sub> H <sub>80</sub> ClNO <sub>4</sub>
Molecular Weight:	698.542
Storage:	Store at low temperature
	Pure form: -20°C for 3 years   In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

## Biological Description

Description	DOTAP chloride (1, 2-dioleoyl-3-trimethylammonium-propane chloride) is an efficient cationic lipid, and its target is mainly the negatively charged components on the cell membrane. DOTAP chloride binds to negatively charged nucleic acids (such as DNA and RNA) by electrostatic interaction to form complexes, thereby achieving the delivery of nucleic acids.
Targets(IC50)	Others,Liposome
In vitro	<b>METHODS:</b> Prostate cancer cell line PC3 and melanoma cell line M21 were treated with paclitaxel (PTX) loaded on DOTAP/DOPC liposome carriers (CLs) for 24 hours. The cytotoxicity was detected by measuring the absorbance at 490 nm using an enzyme-linked immunosorbent assay reader. <b>RESULTS:</b> With the increase of PTX content, the cytotoxic effect of DOTAP/DOPC CLs is enhanced. [1]

## Solubility Information

Solubility	Ethanol: 130.00 mg/mL (186.10 mM),Sonication and heating are recommended. DMSO: 125.00 mg/mL (178.94 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4.00 mg/mL (5.73 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.4316 mL	7.1578 mL	14.3156 mL
5 mM	0.2863 mL	1.4316 mL	2.8631 mL
10 mM	0.1432 mL	0.7158 mL	1.4316 mL
50 mM	0.0286 mL	0.1432 mL	0.2863 mL

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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

Zhen Y, et al. Paclitaxel loading in cationic liposome vectors is enhanced by replacement of oleoyl with linoleoyl tails with distinct lipid shapes. *Sci Rep.* 2021 Mar 31;11(1):7311.

Xu Y, Xu M, Tong J, et al. Targeting the Otub1/c-Maf axis for the treatment of multiple myeloma[J]. *Blood.* 2021, 137 (11): 1478-1490.

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