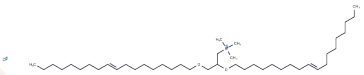
Data Sheet (Cat.No.T8902)

DOTMA

Chemical Properties



CAS No. :	104872-42-6
Formula:	C42H84ClNO2
Molecular Weight:	670.58
Storage:	Keep away from direct sunlight,Keep away from moisture 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	DOTMA (N-(1-(2,3-dioleyloxy)propyl)-N,N,N-trimethylammonium) is a tetra-methylated DOTA analogue. DOTMA is a cationic lipid and can be used as a non-viral vector for gene therapy. It has been used as a component in liposomes that can be used to encapsulate siRNA, microRNAs, and oligonucleotides and for gene transfection in vitro. It exhibits effective in vitro and in vivo gene transfection. DOTMA induces a positive charge on the liposomes and thus promotes efficient liposome- cell membrane interaction.
Targets(IC50)	Others,Liposome

Solubility Information

Solubility	DMSO: 45 mg/mL (67.11 mM),Sonication and heating to 60℃ are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (2.98 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4912 mL	7.4562 mL	14.9125 mL
5 mM	0.2982 mL	1.4912 mL	2.9825 mL
10 mM	0.1491 mL	0.7456 mL	1.4912 mL
50 mM	0.0298 mL	0.1491 mL	0.2982 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

Aime S, et al. Properties, solution state behavior, and crystal structures of chelates of DOTMA. Inorg Chem. 2011;50 (17):7955-7965.
Bhavsar D, et al. Translational siRNA therapeutics using liposomal carriers: prospects & challenges. Curr Gene Ther. 2012;12(4):315-332.
Ren T, et al. Structural basis of DOTMA for its high intravenous transfection activity in mouse. Gene Ther. 2000;7(9): 764-768.