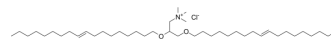


DOTMA

Cat. No.:	HY-139200
CAS No.:	104872-42-6
Molecular Formula:	C ₄₂ H ₈₄ ClNO ₂
Molecular Weight:	670.57
Target:	Liposome
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 12.5 mg/mL (18.64 mM); ultrasonic and warming and heat to 60°C				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	1.4913 mL	7.4563 mL	14.9127 mL
		5 mM	0.2983 mL	1.4913 mL	2.9825 mL
		10 mM	0.1491 mL	0.7456 mL	1.4913 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (3.73 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (3.73 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (3.73 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	DOTMA is a cationic lipid that has been used as a non-viral vector for gene therapy. DOTMA is used as a component of liposomes to encapsulate siRNA, microRNA, and oligonucleotides and for in vitro gene transfection. DOTMA promotes effective interaction between liposomes and cell membranes by inducing positive charge on the liposomes. DOTMA showed good gene transfection effect both in vitro and in vivo ^{[1][2][3][4][5]} .
In Vivo	DOTMA shows high intravenous transfection activity in CD-1 mouse ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Tenside Surfact Det. 2024 October 16.

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REFERENCES

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 - [3]. Aime S, et al. Properties, solution state behavior, and crystal structures of chelates of DOTMA. *Inorg Chem*. 2011;50(17):7955-7965.
 - [4]. Bhavsar D, et al. Translational siRNA therapeutics using liposomal carriers: prospects & challenges. *Curr Gene Ther*. 2012;12(4):315-332.
 - [5]. Ren T, et al. Structural basis of DOTMA for its high intravenous transfection activity in mouse. *Gene Ther*. 2000;7(9):764-768.
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Caution: Product has not been fully validated for medical applications. For research use only.

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