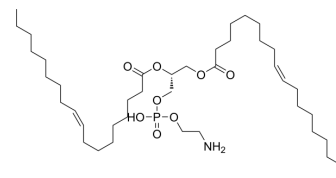


DOPE

Cat. No.:	HY-112005		
CAS No.:	4004-05-1		
Molecular Formula:	C ₄₁ H ₇₈ NO ₈ P		
Molecular Weight:	744.03		
Target:	Liposome		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

Ethanol : 10 mg/mL (13.44 mM; ultrasonic and warming and heat to 60°C)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	1.3440 mL	6.7202 mL	13.4403 mL
5 mM	0.2688 mL	1.3440 mL	2.6881 mL
10 mM	0.1344 mL	0.6720 mL	1.3440 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2 mg/mL (2.69 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
Solubility: 2 mg/mL (2.69 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% EtOH >> 90% corn oil
Solubility: ≥ 2 mg/mL (2.69 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DOPE (dioleoylphosphatidylethanolamine) is a neutral helper lipid for cationic liposome and combines with cationic phospholipids to improve transfection efficiency of naked siRNA^[1].

IC₅₀ & Target

IC₅₀: helper lipid for liposome^[1]

In Vitro

In this study, each siRNA is encapsulated in LNP (cationic lipid-A: PEG2000-DMPE: DOPE = 47.8: 5.18: 47.1 molar percent)^[1]. With the neutral lipid for the LNP is DOPE, LNP exerts knock-down (KD) effect on macrophages and DCs and Liposome-

containing DOPE shows fusogenicity^[1].

LNP/siRNA significantly suppresses CD45 protein expression at an inhibition rate of 30% on macrophages and DCs but not on monocytes, neutrophils, plasmacytoid DCs, or B cells^[1].

LNP has the potential to be an efficient siRNA delivery system not only for murine but also for human macrophages and DCs^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Uemura Y, et al. The efficiency of lipid nanoparticles with an original cationic lipid as a siRNA delivery system for macrophages and dendritic cells. Pharm Dev Technol. 2019 Mar;24(3):263-268.

Caution: Product has not been fully validated for medical applications. For research use only.

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