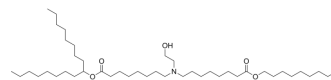


## Lipid 5

Cat. No.:	HY-138171		
CAS No.:	2089251-33-0		
Molecular Formula:	C <sub>44</sub> H <sub>87</sub> NO <sub>5</sub>		
Molecular Weight:	710.17		
Target:	Biochemical Assay Reagents		
Pathway:	Others		
Storage:	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (140.81 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		1.4081 mL	7.0406 mL	14.0811 mL
		5 mM		0.2816 mL	1.4081 mL	2.8162 mL
10 mM			0.1408 mL	0.7041 mL	1.4081 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: 2.5 mg/mL (3.52 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (3.52 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (3.52 mM); Clear solution</li> </ol>					

### BIOLOGICAL ACTIVITY

Description	Lipid 5 is an amino lipid that affords efficient mRNA delivery in rodent and primate models. Lipid 5 shows optimal pharmacokinetics and non-toxic side effects <sup>[1]</sup> .
In Vitro	<p>Replacement of the linoleic tail with a primary ester-containing lipid tail (Lipid 5) provides increased expression and optimal tissue clearance. The metabolite identification studies with Lipid 5 indicated that hydrolysis of the primary ester is the first step in the metabolism of the lipid<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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## In Vivo

Clearance of Lipid 5 and MC3 from multiple mouse tissues is measured after dosing 0.05 mg/kg mRNA on days 1, 8, and 15 in CD-1 female mice. Liver and spleen have the highest levels of Lipid 5, however, significantly lower levels than MC3. Lipid 5 is detected in plasma, lung, and kidney, but not in heart<sup>[1]</sup>.

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

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## REFERENCES

[1]. Staci Sabnis, et al. A Novel Amino Lipid Series for mRNA Delivery: Improved Endosomal Escape and Sustained Pharmacology and Safety in Non-human Primates. Mol Ther. 2018 Jun 6;26(6):1509-1519.

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

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