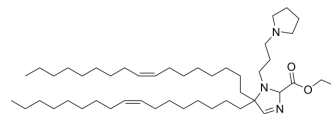


A2-Iso5-2DC18

Cat. No.:	HY-151509
CAS No.:	2412492-07-8
Molecular Formula:	C ₄₇ H ₈₇ N ₃ O ₂
Molecular Weight:	726.21
Target:	Others
Pathway:	Others
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (137.70 mM; Need ultrasonic)					
		Solvent Concentration	Mass			
	Preparing Stock Solutions			1 mg	5 mg	10 mg
		1 mM		1.3770 mL	6.8851 mL	13.7701 mL
		5 mM		0.2754 mL	1.3770 mL	2.7540 mL
	10 mM		0.1377 mL	0.6885 mL	1.3770 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 (3.44 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (3.44 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (3.44 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	A2-Iso5-2DC18 is a dihydroimidazole-linked lipid, served as potent mRNA delivery vehicle. A2-Iso5-2DC18 can be used for antitumor research, including B16F10 melanoma. ^[1]
In Vivo	<p>A2-Iso5-2DC18, loaded with mLuc or Cre-recombinase mRNA LNPs (mCre), (0.1 mg/kg and 0.5 mg/kg; s.c.; once a week, for 2 weeks) transfects central antigen presenting cells (APCs) in A14/Cre mRNA mouse model^[1].</p> <p>A2-Iso5-2DC18 loaded with OVA mRNA (mOVA) vaccine, (15 μg mOVA per mouse; s.c.; twice dose, once every 5 d) induces a significantly high antigen-specific cytotoxic T lymphocyte (CTL) response, in parallel with robust IFN-α secretion in B16F10 mouse melanoma model^[1].</p>

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

Animal Model:	A14/Cre mRNA mouse model (female B6 mice) ^[1]
Dosage:	Loaded with Cre-recombinase mRNA LNPs (mCre); 0.1 mg/kg and 0.5 mg/kg
Administration:	Subcutaneous injection; 3 weeks
Result:	Induced protein expression in the local injection site and the draining lymph nodes and transfected central antigen presenting cells (APCs) including macrophages/monocytes (CD11b ⁺) and dendritic cells (CD11c ⁺) in mice.

Animal Model:	Ovalbumin (OVA)-expressing B16F10 mouse melanoma model ^[1]
Dosage:	Loaded with OVA mRNA (mOVA) vaccine; 15 µg mOVA per mouse
Administration:	Subcutaneous injection; once per week for the first two weeks; 3 weeks continuous observation
Result:	Significantly decreased tumor volume of B16-OVA melanoma and improved overall survival in mice. Increased the number of systemic and tumor-infiltrating antigen-specific T cells dramatically (20–30-fold).

REFERENCES

[1]. Miao L, et al. Delivery of mRNA vaccines with heterocyclic lipids increases anti-tumor efficacy by STING-mediated immune cell activation. Nat Biotechnol. 2019 Oct;37(10):1174-1185.

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

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