NanOZmix-DIY-SM102
(Dried lipid mix as Do It Yourself (DIY) Lipid Nanoparticle (LNP))

Description

Ready-to-use dried lipid mix at the total lipid concentration of 25 mM when reconstituted in 1mL ethanol, for LNP-mRNA formulation.

LNPs represent the most effective and safe delivery systems for the translational success of nucleic acid drugs. LNPs are lipidic spherical vesicles formed by a combination of four main components: an ionizable cationic lipid, a helper phospholipid, cholesterol & a pegylated lipid, each having distinct functions (**Fig.1**). LNPs not only protect RNA from degradation but also facilitate intracellular uptake and thus potentiate its efficacy. **LNP/RNA** systems self-assemble *via* electrostatic interactions between negatively charged RNA and ionizable cationic lipids.
NanOZmix-DIY-SM102 is designed for the development of LNP by customers at their ease by using different formulation methods at different N/P ratio. With our **NanOZmix-DIY-SM102** system, customers can produce themselves a monodisperse LNP encapsulating mRNA within the size range of 50 nm to 200 nm through microfluidic/ impingement jets mixing (IJM)/T-junction mixing technology with an encapsulation efficiency of 80-96 % under optimized conditions.

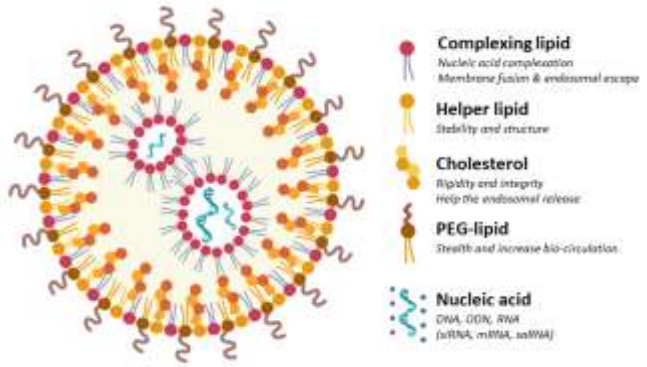

Fig.1. Schematic representation of LNPs-mRNA

Applications

Preparation of 25 mM ethanolic lipid mix stock

Bring the dry film of **NanOZmix-DIY-SM102** at room temperature from -20°C. Add 1 mL of ethanol in it and vortex it until you see a clear solution. If you see signs of precipitation, try to sonicate or heat the ethanolic solution at 60°C for 1-2 min and vortex again.

Refer to the **LNP-DIY protocol** data sheet for more information.

Quality Controls

Items	Specification	Standard QC	Superior Grade QC*
Lipid Integrity	Integrity	✓	✓
	Purity	✓	✓
	Formulation & characterization		✓

* Contact us to get a quote.

Certificate of analysis on demand.

Use, handling and storage

For Research Use Only. Not for use in humans. Not for use in diagnostic or therapeutic purposes.

NanOZmix-DIY-SM102 must be stored at -20°C as a dried film and at -80°C as ethanolic solution. Dried lipidic film can be stored for 6 months whereas ethanolic solution must be used within one month.

Kit contents

LDIY102: Dried 25 mM lipid mix having composition as described in table below:

Lipid mix components	Molecular weight	Molar ratio
SM102	710.2	50.0
DSPC	790.2	10.0
Cholesterol	386.7	38.5
DMG-PEG 2000	2509.2	1.5
Total		100.0

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Related Products

Ref	Description
#**LNP10500**	Empty LNP
#**LNP10500mRNA11**	NanOZ-LNP/mRNA (GFP).
#**LNP10500mRNA12**	NanOZ-LNP/mRNA (LUC).
#**LNP10500mRNA41**	NanOZ-LNP/mRNA (OVA).

Custom LNPs & mRNAs are also available now!

Purchaser Notification | Conditions of Sale

This product is sold in accordance with our general conditions of sale that you can find on our website: https://ozbiosciences.com/content/3-terms-and-conditions.