NanOZ LNP-siRNA scrambled Cy5
(Cy5-labeled scrambled siRNA formulated in Lipid NanoParticle)

Description

Ready-to-use stabilized **NanOZ LNP-siRNA scrambled Cy5.**

Concentration: 400 nM siRNA in LNPs

Buffer: PBS, 10 % sucrose

Fluorescently labeled non-targeting control small interfering RNA (siRNA) molecule.

Lipid Nanoparticles (LNPs) represent the most effective and safe delivery systems for the translational success of nucleic acid drugs. **NanOZ LNP-siRNA** is designed to not only protect siRNA from degradation but also facilitate intracellular uptake and thus potentiate its efficacy. LNPs are lipidic spherical vesicles formed by a combination of four main compounds: ionizable cationic lipid, helper phospholipid, cholesterol & pegylated lipid, each having distinct functions (**Fig.1**). **LNP-siRNA** systems self-assemble *via* electrostatic interactions between negatively charged siRNA and ionizable cationic lipids. Our delivery systems are produced through microfluidic technology resulting in monodisperse **NanOZ LNP-siRNA** with narrow size distribution and high encapsulation efficiency (>85%). OZB developed optimized **NanOZ LNP-siRNA** to improve stability and performance. Currently, LNPs hold great potential in diverse pharmaceutical applications including oncology, immunotherapy, regenerative medicine or chronic diseases treatment.

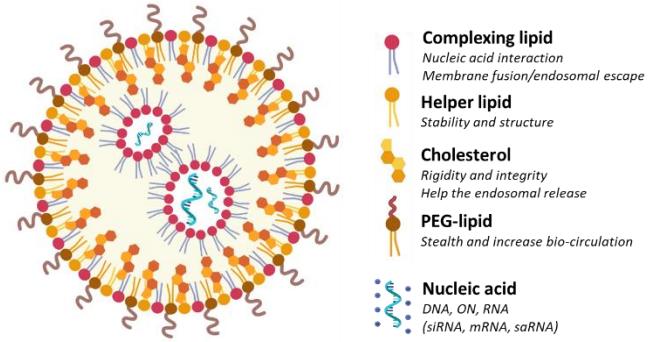

Fig.1. Schematic representation of LNP-siRNA

Applications

siRNA scrambled Cy5: Cy5 fluorescently labeled scrambled siRNA have been designed as negative controls for tracking and imaging experiments. siRNAs are conjugated to a Cy5 fluorophore, enabling visualization of their cellular uptake, intracellular trafficking, and biodistribution through fluorescence or confocal microscopy. The scrambled sequence does not target any endogenous mRNA, ensuring that no specific gene silencing occurs. This allows researchers to differentiate between sequence-specific RNA interference effects and non-specific responses related to delivery, formulation, or cellular handling. Cy5-labeled scrambled siRNAs are thus essential for validating siRNA delivery efficiency while controlling for off-target or fluorescent probe–related artifacts.

NanOZ LNP-siRNA scrambled Cy5: Biodistribution of **LNP-siRNA** in various organs can easily be assessed by detection of fluorescent signal. LNPs are suitable delivery systems for the parenteral administration routes.

Cy5 detection

The Cy5 fluorophore has an excitation peak at 650 nm and an emission peak near 665–670 nm. Cy5-labeled siRNA can be detected by fluorescence or confocal microscopy.

Quality Controls

Items	Specification	Standard QC	Superior Grade QC*
Identity	Size	✓	✓
	Charge	✓	✓
Content	Encapsulation efficiency	✓	✓
	RNA concentration	✓	✓
Safety	Sterility	✓	✓
	Endotoxin		✓
	Mycoplasma detection		✓
Characterization	Lipid content		✓

* 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.

Long term storage (6 months): -80°C.

Short term storage (2 months): +4°

We recommend minimizing freeze-thaw cycles to preserve LNPs integrity.

Kit contents

LNP10250SIRNA3: 0.25 mL (5*50 µL) of **LNP-siRNA scrambled Cy5**, (400 nM siRNA)
LNP10500SIRNA3: 0.5 mL (10*50 µL) of **LNP-siRNA scrambled Cy5**, (400 nM siRNA)
LNP11000SIRNA3: 1 mL (20*50 µL) of **LNP-siRNA scrambled Cy5**, (400 nM siRNA)

LNPs have a composition as described in table below:

Lipid mix components	Molecular weight	Molar ratio
SS23	866.3	48.5
DSPC	790.2	10.0
Cholesterol	386.7	40.0
DMG-PEG 2000	2509.2	1.5
Total		100.0

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Related Products

Ref	Description
#**LNP10500SIRNA1**	LNP-siRNA GFP.
#**LNP10500SIRNA2**	LNP-siRNA GAPDH.

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.