

## Description

Ready-to-use stabilized **NanOZ LNP-siRNA(GFP)**.

**Concentration:** 400 nM siRNA in LNPs

**Buffer:** PBS, 10 % sucrose

**Validated functional siRNA targeting sequence against GFP** for use as positive controls in cells that express the reporter gene.

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 (>80%). OZB developed optimized **NanOZ LNP-siRNA(GFP)** to improve stability and performance. Currently, LNPs hold great potential in diverse pharmaceutical applications including oncology, immunotherapy, regenerative medicine or chronic diseases treatment.

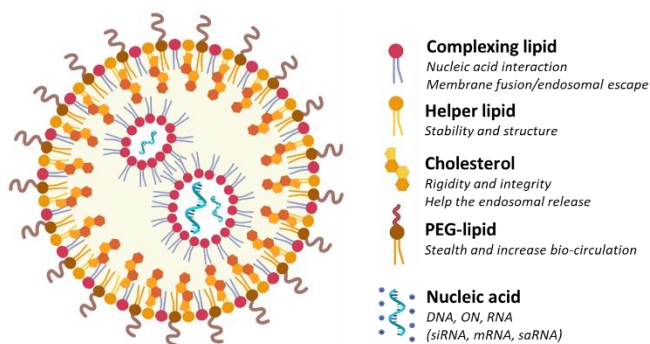


Fig.1. Schematic representation of LNP-siRNA

## Applications

**siRNA GFP:** siRNA targeting GFP have been designed to specifically knock down the expression of green fluorescent protein. These siRNAs induce RNA interference (RNAi), leading to the sequence-specific degradation of GFP mRNA, making them powerful tools to assess gene silencing efficiency and optimize delivery systems. siRNA-mediated knockdown is transient, non-integrative, and acts post-transcriptionally, minimizing the risk of genomic alterations—advantageous for applications in stem cell research, functional genomics, and therapeutic development.

**NanOZ LNP-siRNA(GFP):** Biodistribution of **LNP-siRNA** and siRNA mediated RNAi kinetics in various organs can easily be assessed by detection of fluorescent signal. LNPs are suitable delivery systems for the parenteral administration routes.

## GFP detection

The GFP produced has an excitation peak at 470-480 nm and emission peak at 510 nm. GFP inhibition level can be monitored by fluorescent 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

**LNP10250SIRNA1:** 0.25 mL (5\*50 µL) of **LNP-siRNA GFP**, (400 nM siRNA)

**LNP10500SIRNA1:** 0.5 mL (10\*50 µL) of **LNP-siRNA GFP**, (400 nM siRNA)

**LNP11000SIRNA1:** 1 mL (20\*50 µL) of **LNP-siRNA GFP**, (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

## Related Products

Ref	Description
#LNP10500SIRNA2	LNP-siRNA GAPDH.
#LNP10500SIRNA3	LNP-siRNA scrambled Cy5 labelled.

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>.