NanOZ LNP-siRNA(GAPDH)
(siRNA targeting GAPDH formulated in Lipid NanoParticle)

Description

Ready-to-use stabilized **NanOZ LNP-siRNA(GAPDH).**
Concentration: 400 nM siRNA in LNPs
Buffer: PBS, 10 % sucrose
Validated functional siRNA targeting sequence against GAPDH 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 (>85%). OZB developed optimized **NanOZ LNP-siRNA(GAPDH)** to improve stability and performance. Currently, LNPs hold great potential in diverse pharmaceutical applications including oncology, immunotherapy, regenerative medicine or chronic diseases treatment.

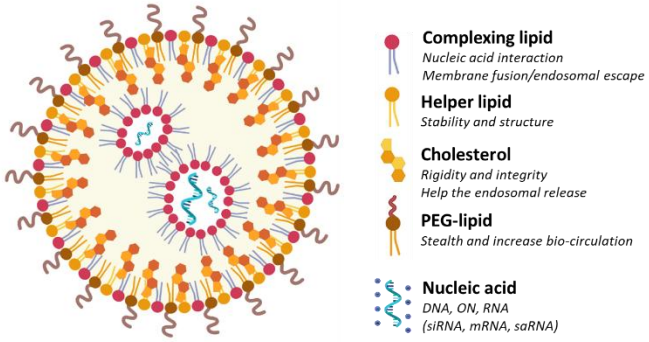

Fig.1. Schematic representation of LNP-siRNA

Applications

siRNA GAPDH: siRNA targeting GAPDH have been designed to selectively silence the housekeeping gene glyceraldehyde-3-phosphate dehydrogenase (GAPDH). By triggering RNA interference (RNAi), these siRNAs promote the sequence-specific degradation of GAPDH mRNA, providing a robust positive control for assessing knock-down efficiency and benchmarking delivery platforms. The resulting gene suppression is transient, non-integrative, and post-transcriptional, thereby minimizing genomic risks—an advantage for applications in functional genomics, metabolic studies, stem-cell research, and therapeutic development.

NanOZ LNP-siRNA(GAPDH): Biodistribution of **LNP-siRNA** and siRNA mediated RNAi kinetics in various organs can be readily monitored by quantifying GAPDH mRNA knock-down. LNPs are suitable delivery systems for the parenteral administration routes.

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

LNP10250SIRNA2: 0.25 mL (5*50 µL) of **LNP-siRNA GAPDH**, (400 NM siRNA)
LNP10500SIRNA2: 0.5 mL (10*50 µL) of **LNP-siRNA GAPDH**, (400 NM siRNA)
LNP11000SIRNA2: 1 mL (20*50 µL) of **LNP-siRNA GAPDH**, (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

Rev 03/25 CS

Related Products

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