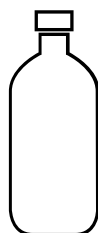


September 2025

EZ-LNPTM RNA Transfection Kit



0.3 mL (cat. no. TT300004S)

1.0 mL (cat. no. TT300004L)

Instrument-free LNP kit enabling effective RNA transfection in vitro and RNA delivery in vivo.



For Research Use Only



www.origene.com



TT300004S, TT300004L



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Product Overview

EZ-LNP™ is a fast, flexible, and easy-to-use kit for RNA delivery in both in vitro and in vivo research, enabling high expression, low toxicity, and transferable results. OriGene’s proprietary library of novel ionizable lipids is designed to enhance protein expression and minimize systemic toxicity and reactogenicity vs traditional LNPs.

Component Description

The kit is shipped on blue ice. Once received, store the components as indicated below.

Table 1. Storage Conditions for the Components

Component	Storage
EZ-LNP	4°C
RNA Buffer	4°C

Note: For long-term storage (2 months or greater), store EZ-LNP at -20°C.

Recommendations:

- Applications:** In vitro & In vivo transfection
- Compatible RNA types (cargo):** mRNA, circRNA, gRNA, siRNA, saRNA or any combination
- Reporter RNA:** eGFP mRNA, Luciferase mRNA
- Best Use of:** RNA screening, RNA vaccines, RNA therapeutics

Note:

- The **In Vitro EGFP mRNA Transfection Protocol** outlined below is used as guidance. For other RNAs, the dose and readout time may need to be optimized.
- The **In Vivo Luciferase mRNA Transfection Protocol** outlined below is used as guidance. For other RNAs, the dose and readout time may need to be optimized.

Protocol: In Vitro EGFP mRNA Transfection - HEK293T Cell Assay

Cell Preparation:

- Seed HEK293T cells in 24-well plates at $1.5\text{--}2 \times 10^5$ cells/well in 500uL medium. Cells should be evenly distributed and attached, as the cell condition is critical for FL intensity.
- Culture overnight in DMEM with 10% FBS and Pen/Strep

LNP Formulation:

1. Warm EZ-LNP reagent to 37°C for at least 10 minutes.
2. Dilute mRNA in RNA Buffer to 130ng/ μ L (confirm with Nanodrop or equivalent).
3. In a clean Eppendorf tube, add 1 volume of EZ-LNP ranging from 10uL-100uL (e.g., 30uL).
4. Quickly add 3 volumes of RNA solution ranging from 30uL-300uL (e.g., 90uL) to EZ-LNP.
5. Immediately pipette up/down 20x, or vortex for 3 seconds.
6. Keep RNA-LNP mixture on ice and use the same day for best results.

Transfection:

- Add 5-10 μ L of RNA-LNP mix (500-1000ng RNA) to each well.
- Incubate for 12-24 hours.
- Analyze cells using fluorescence microscopy or flow cytometry.

Protocol: In Vivo Luciferase mRNA Transfection - Mouse

LNP Formulation:

1. Warm EZ-LNP reagent to 37°C for at least 10 minutes.
2. Dilute firefly luciferase (f-Luc) mRNA in RNA Buffer to 130ng/ μ L (confirm with Nanodrop or equivalent).
3. In a clean Eppendorf tube, add 1 volume of EZ-LNP ranging from 10uL-100uL (e.g., 30uL).
4. Quickly add 3 volumes of RNA solution ranging from 30uL-300uL (e.g., 90uL) to EZ-LNP.
5. Immediately pipette up/down 20x (rigorously), or vortex for 3 seconds.
6. For IM and SC injection, use it directly. For IV injection, filter the RNA-LNP mixture using a 0.45 μ m syringe filter and keep the filtrate on ice. Use the same day for best results.

Administration:

- Inject 50 μ L (5 μ g RNA) intramuscularly in each mouse.

Readout:

- Perform whole-body IVIS imaging 6 hours post-injection following luciferin administration.

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