

jetMESSENGER®

mRNA Transfection
Reagent for
Hard-To-Transfect Cells



Product Information

jetMESSENGER® is a highly efficient and gentle mRNA transfection reagent. jetMESSENGER® has been specifically designed to offer outstanding transfection efficiency in cells that are usually difficult to transfect, such as primary cells, cancer cell lines, neurons, and stem cells. jetMESSENGER® can also be used on a wide variety of easy to transfect cells. Transfection with jetMESSENGER® leads to very low cytotoxicity as it requires low amounts of mRNA and low volumes of reagent.

jetMESSENGER® is perfectly suited for gene expression, CRISPR gene editing, induced pluripotent stem cell (iPSC) generation, stem cell differentiation, lymphocyte transfection and immunotherapy assays.

Features and Benefits

- High efficiency transfection: Utmost gene expression on a wide variety of hard-to-transfect cells
- Keeps cell integrity: Extremely gentle on cells
- Cost saving: Low amounts of mRNA and low volumes of reagent required
- Outperforms DNA transfection: No need to reach the cell nucleus

Introduction

Relevant Applications

- Gene expression
- Genome editing
- Stem cell differentiation
- Reprogramming
- Lymphocyte transfection
- Advanced cell culture (3D cell culture using transfection)
- Immunotherapy

Relevant Process Steps

- mRNA transfection

Technical Specifications

Molecule delivered	mRNA
Cell Types	Hard-to-transfect cells Adherent and suspension cells Primary cells (Neurons, stem cells, immune cells, fibroblasts) Post-mitotic cells
Number of transfections	1.5 mL of jetMESSENGER® transfection reagent is sufficient to perform up to 1500 transfections in 24-well plates or 375 transfections in 6-well plates
Storage	Store jetMESSENGER® at 5 °C ± 3 °C. Expiry date is indicated in the certificate of analysis and on the product.
Provided with	mRNA buffer

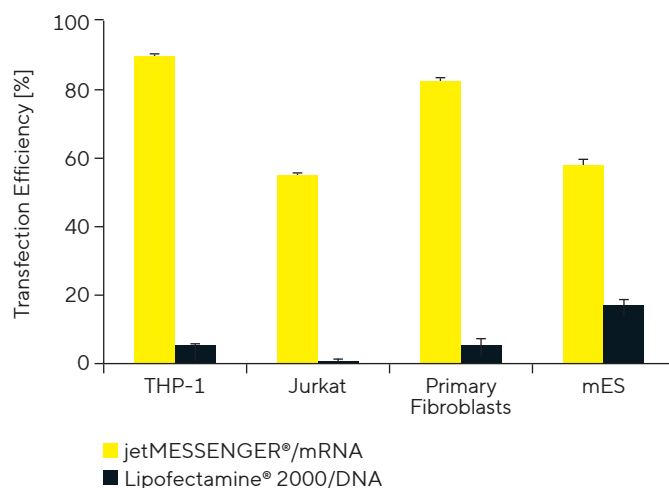
Capabilities

• Outperforms DNA Transfection

jetMESSENGER® is a highly efficient and gentle mRNA transfection reagent. mRNA transfection presents many advantages versus DNA transfection:

- No risk of genome integration, hence no genome modification of the transfected cell
- No promoter regulation issue
- No need to reach the nucleus for efficient expression
- More gentle process

Figure 1: jetMESSENGER® Outperforms Its Main DNA Transfection Reagent Competitor

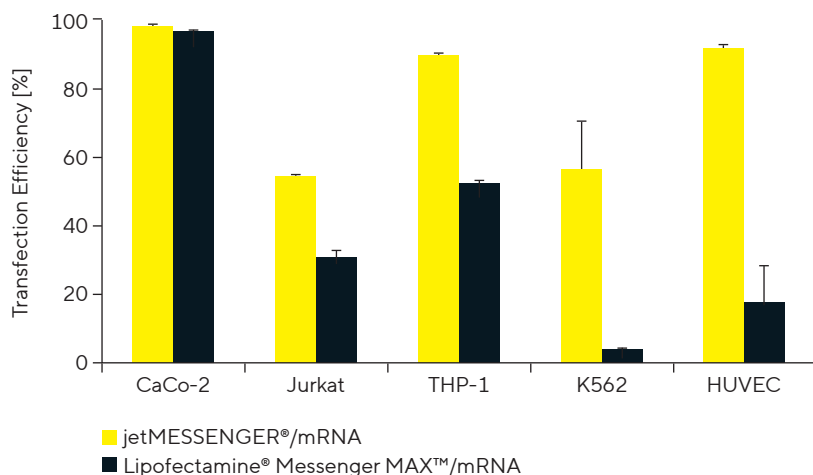


Note. Transfection efficiency was assessed by FACS analysis in various cell lines 24 hours after transfection of eGFP mRNA (5meC, pseudo-uridine, Trilink™) or plasmid DNA encoding for eGFP. Conditions were used according to the manufacturer's recommendation.

- **Allows Higher Gene Expression Than Main Competitors on a Variety of Cell Lines**

jetMESSENGER® is extremely efficient especially in hard-to-transfect cells compared to other mRNA transfection reagents. Transfection with jetMESSENGER® leads to outstanding mRNA delivery in a wide variety of cell lines, such as neurons, primary cells, stem cells and various cancer cell lines.

Figure 2: Higher Transfection Efficiency Using jetMESSENGER® Compared to Its Main Competitor

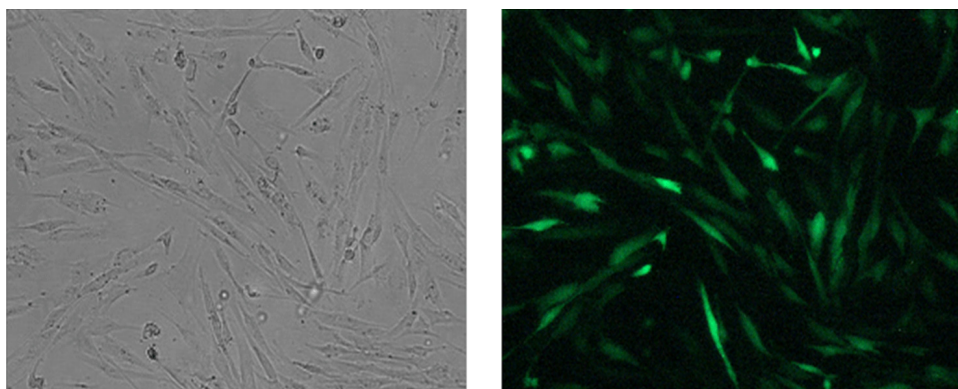


Note. Transfections were performed in various hard-to-transfect cell lines with eGFP mRNA (5meC, pseudo-uridine, Trilink™) using jetMESSENGER® or Lipofectamine® MessengerMAX™. Conditions were used according to the manufacturer's recommendation. 24 hours post-transfection, transfection efficiency was assessed by FACS analysis.

- **Suitable for Different Applications**

jetMESSENGER® is designed for several applications, such as gene expression, CRISPR/Cas-9 gene editing, reprogramming experiments in fibroblasts and stem cells, and immunotherapy assays.

Figure 3: mRNA Transfection With jetMESSENGER® to Cell Reprogramming: Transform Fibroblasts Into iPSCs

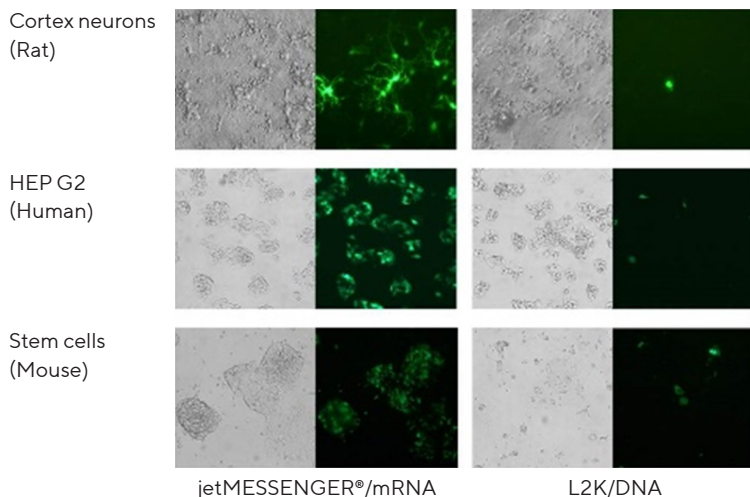


Note. jetMESSENGER® is suitable to transfect mRNA in BJ cells (human fibroblast). BJ cells were analyzed by bright-field and fluorescent microscopy 48 hours after transfection. Transfection was performed with jetMESSENGER®/eGFP mRNA (5meC, pseudo-uridine, TriLink™) according to the manufacturer's recommendations.

• **Extremely Gentle on Cells**

By eliminating the need to reach the nucleus for efficient expression, jetMESSENGER® allows transfection of quiescent and slow dividing cells. In addition, jetMESSENGER® operates through an extremely gentle process. Cell viability remains extremely high during transfection and cell morphology is maintained.

Figure 4: jetMESSENGER® Provides a Better Cell Viability and a Higher Protein Expression Than DNA Transfection



Note. Primary Rat Cortical neurons, Hep G2 and mouse stem cells were analyzed 48 hours after transfection using phase contrast and fluorescent microscopy. The transfections were performed with jetMESSENGER®/eGFP mRNA (5meC, pseudo-uridine, TriLink™) and L2K/eGFP plasmid DNA according to the manufacturer's recommendations for each reagent.

Ordering Information

Item	Description	Package Volume Quantity Size	Order Number
jetMESSENGER® 0.1 mL	mRNA transfection reagent for hard-to-transfect cells provided with associated Buffer	0.1 mL Vial (+ 10 mL mRNA Buffer bottle)	101000056
jetMESSENGER® 0.75 mL		0.75 mL Vial (+ 60 mL mRNA Buffer Bottle)	101000005

Bulk quantities are available upon request.

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