Tinzyme Co., Limited

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# eGFP mRNA (N1-Me-Pseudo UTP)

**Product Number: M050803**

## Shipping and Storage

Store at -20℃ with RNase Free Water as the storage buffer.

## Component

| component | M050803 | M050803 |
|---|---|---|
| eGFP mRNA (N1-Me-Pseudo UTP) | 100μg | 1mg |

## Description

EGFP mRNA (N1 Me Pseudo UTP) encodes a green fluorescent protein with maximum excitation/emission wavelengths of 488nm/509nm, respectively. Transfection into cells can express enhanced green fluorescence, which can be used as a control study for the transfection and expression of target genes in mammalian cells. This product replaces natural UTP with N1-Me Pseudo UTP, effectively reducing the autoimmunogenicity of mRNA in mammalian cells and enhancing mRNA stability. It also simulates mature mRNA with a 5'Cap 1 structure and a 3' poly (A) tail, making it an ideal choice for studying transfection and expression using various assays.

This product is a mature mRNA with a 5'Cap 1 structure and a 3' poly (A) tail synthesized using the T7 High Yield RNA Transcription Kit (E131) and modified with Cap 1 Capping System Kit (CP082) (Figure 1).

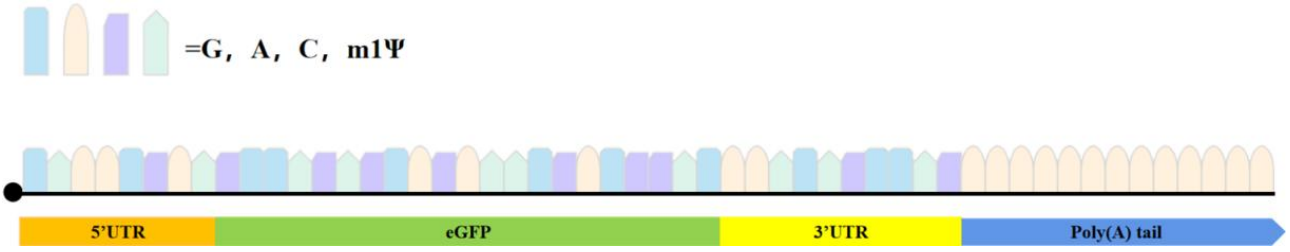


Figure 1. eGFP mRNA (N1 Me Pseudo UTP) structure, all UTPs replaced with N1 Me Pseudo UTP. This image is cited from Aditham Abhishek,Shi Hailing,Guo Jianting et al. Chemically Modified mocRNAs for Highly Efficient Protein Expression in Mammalian Cells[J]. ACS Chem Biol, 2022, 17: 3352-3366

## Features

1. The Cap 1 structure is more suitable for mammalian systems and has higher translation efficiency than the Cap 0 structure (ARCA and m7Cap). Replacing UTP with modified base N1-Me Pseudo UTP can reduce the intrinsic immune stimulation of IVT mRNA and enhance protein translation. The addition of Poly (A) tail inhibits RNA mediated innate immune activation, increasing the stability and lifespan of mRNA in vivo and in vitro. Poly (A) also plays an important role in improving the efficiency of translation initiation.
2. The experimental method is simple and fast, with stable results and good reproducibility.
3. mRNA is directly expressed in the cytoplasm with stable transfection efficiency.

## Application

1. As a reporting material for gene regulation and functional research.
2. Suitable for detection of mRNA delivery, translation efficiency, cell viability, and in vivo imaging.

## Quality control

No residual RNA enzyme, single mRNA electrophoresis band, and stable transfection efficiency.

**For Research Use Only**

**Related Products**

| Product Number | Product Name |
|---|---|
| GMP-M062 | Vaccinia Capping Enzyme, GMP Grade |
| GMP-T701 | T7 RNA Polymerase, GMP Grade |
| GMP-M072 | mRNA Cap 2′ O Methyltransferase, GMP Grade |
| GMP-RI01 | RNase Inhibitor, GMP Grade |
| GMP-M012 | Poly(A) Polymerase, GMP Grade |
| GMP-M036 | Pyrophosphatase, Inorganic (yeast), GMP Grade (ppase) |
| GMP-E131 | T7 High Yield RNA Transcription kit, GMP Grade |
| N5331 | N1-Me-Pseudo UTP,100mM Solution |
| M050801 | eGFP mRNA |
| M050802 | Luciferase mRNA |