Tinzyme Co., Limited

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mCherry mRNA(N1-Me-Pseudo UTP)

Product Number: MR105

Shipping and Storage

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

Components

Component	MR105	MR105
mCherry mRNA (N1-Me-Pseudo UTP) (1mg/ml)	100μg	1mg

Description

MCherry mRNA (N1 Me Pseudo UTP) is a reporter mRNA encoding a red fluorescent protein, with maximum excitation and emission light of 587nm and 610nm, respectively. MCherry is a red fluorescent protein derived from Mushroom Coral, widely used as a red fluorescent dye in biotechnology as a tracer, including molecular labeling and localization of cellular components.Compared to other red fluorescent proteins, mCherry exhibits excellent fluorescence brightness and photostability, as well as lower cytotoxicity. 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 tool for studying transfection and expression using various assays.

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

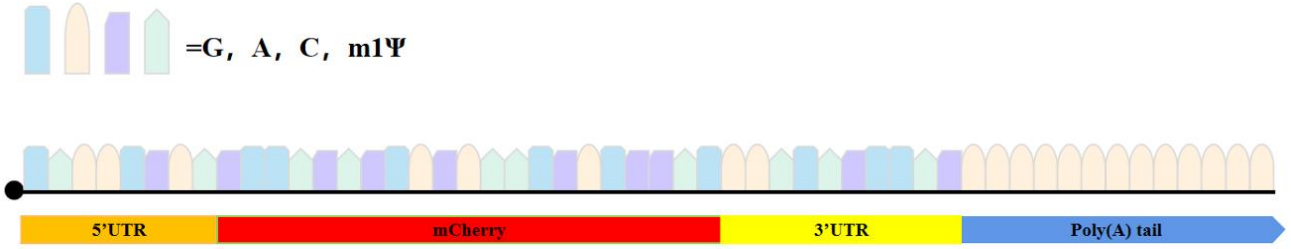

Figure 1. mCherry mRNA (N1 Me Pseudo UTP) structure, mRNA length 1195nt, all UTPs replaced with N1 Me Pseudo UTP.

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 research on mRNA delivery, translation efficiency, cell viability, and in vivo imaging.

Quality control

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

Related products

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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
TM01	T7 RNA Transcription Enzyme Mix
M050801	eGFP mRNA
M050802	Luciferase mRNA
M050803	eGFP mRNA （N1-Me-Pseudo UTP）
M050804	Firefly Luciferase mRNA (N1-Me-Pseudo UTP)
MR201	eGFP circRNA
MR016	hEPO mRNA (N1-Me-Pseudo UTP)