

Tomato mRNA

(mRNA encoding an orange fluorescent protein)

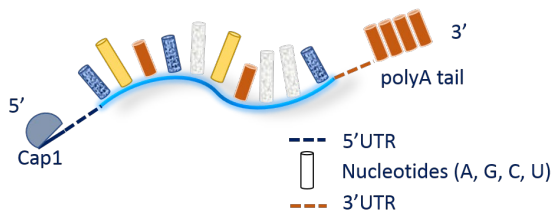
Description

Ready-to-use stabilized Tomato mRNA
 Concentration: 1.0 mg/mL in 1 mM Sodium Citrate, pH 6.4.
 mRNA length: 1630 nt. MW **MRNA2**= 530222 g/mol; MW **MRNA9**= 526907 g/mol; **MRNA10**= 533537 g/mol.

Tomato mRNAs have been designed to produce high expression level of orange fluorescent protein. OZB mRNAs are produced by *in vitro* transcription. mRNAs are stabilized at the 5' end by modified nucleotides capping (Cap1) and contain a poly(A) tail at the 3' end. Sequences have been optimized to yield improved stability and performance. Tomato **#RNA9** does not bear any additional nucleotide modifications while **#MRNA10** is modified with 5-methoxyuridine (5moU), **#MRNA2** is modified with N1-methyl-pseudouridine (N1-mψ) to reduce innate immune responses.

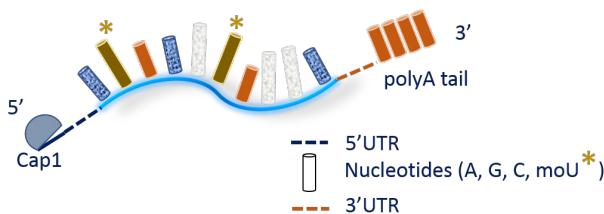
(ref# **MRNA9**):

Mature mRNA (unmodified nucleotides) with cap1 and polyA tail



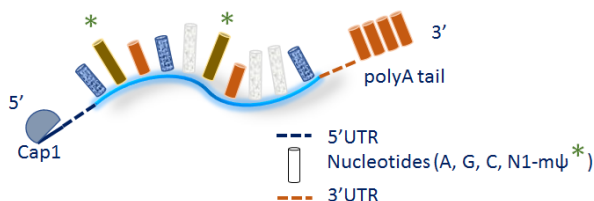
(ref# **MRNA10**):

Mature mRNA (fully modified moU) with cap1 and polyA tail



(ref# **MRNA2**):

Mature mRNA (fully modified N1-mψ) with cap1 and polyA tail



Applications

Tomato mRNAs can be used as control of transfection efficiency. Tomato mRNAs resemble fully matured mRNAs with 5'cap1 structure and 3' polyA tail, therefore ready to be translated by the ribosome. mRNA transfection provides several advantages over plasmid DNA (pDNA) delivery. It does not require nuclear uptake for being expressed since translation of mRNA occurs directly into cytoplasm. Indeed, nuclear delivery (transport through nuclear membrane) is one the principal barriers for transfecting slow or non-dividing cells and consequently, mRNA transfection is particularly attractive for such purpose. This approach presents also the advantage of being non-integrative which is particularly appealing for stem cells, regenerative medicine or vaccine fields. Contrary to pDNA, mRNA cannot lead to genetic insertion causing mutations. Moreover, the protein expression from the mRNA is promoter-independent and faster than with DNA. For transfection we recommend RmesFect™ (#RM21000) and RmesFect™ Stem (#RS31000).

Tomato detection

For transfections performed with the MRNA9 or 10, the detection can be done by fluorescent or confocal microscopy. The produced Tomato has an excitation maximum at 551-557 nm and emission maximum at 579-583 nm. Tomato expression level can also be monitored by fluorescence-activated cell sorter analysis (FACS).

Kit contents

Tomato mRNAs-20: 20 µg of mRNA unmodified or modified.

Tomato mRNAs-100: 100 µg of mRNA unmodified or modified.

Tomato mRNAs-1000: 1 mg of mRNA unmodified or modified.

Storage

Tomato mRNAs must be stored at -80°C

We recommend to aliquot the mRNA solution for a better storage.

OZ Biosciences SAS

163 avenue de Luminy
Case 922, zone entreprise

13288 Marseille cedex 09 - FRANCE
Ph: +33 (0) 486 948 516

Fax: +33 (0) 463 740 015

contact@ozbiosciences.com

order@ozbiosciences.com

OZ Biosciences INC

7975 Dunbrook Road,
Suite B

San Diego CA 92126 - USA
Ph : + 1-858-246-7840

Fax : + 1-855-631-0626

contactUSA@ozbiosciences.com

orderUSA@ozbiosciences.com

Ref	Description
RM21000	RmesFect™ transfection reagent 1mL
RS31000	RmesFect™ Stem transfection reagent 1mL

Discover the complete list of mRNA at: www.ozbiosciences.com
Custom mRNAs are also available now!

Contact Us

Feel free to contact us for all complementary information and remember to visit our website to stay informed on the latest breakthrough technologies and updated on our complete product list. (www.ozbiosciences.com). For bulk, please contact us: order@ozbiosciences.com

Technical questions: tech@ozbiosciences.com
Order: order@ozbiosciences.com
General Information: contact@ozbiosciences.com

OZ Biosciences SAS

163 avenue de Luminy
Case 922, zone entreprise
13288 Marseille cedex 09 - FRANCE
Ph: +33 (0) 486 948 516
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7975 Dunbrook Road,
Suite B
San Diego CA 92126 - USA
Ph : + 1-858-246-7840
Fax : + 1-855-631-0626
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orderUSA@ozbiosciences.com