

β-Gal mRNA

(β-galactosidase protein encoding mRNA)

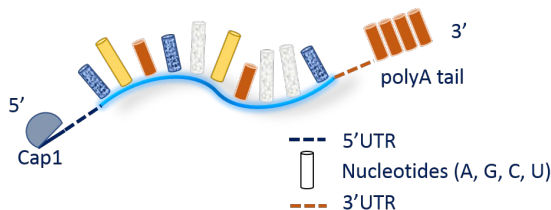
Description

Ready-to-use stabilized β-galactosidase mRNA
 Concentration: 1.0 mg/mL in 1mM sodium Citrate (pH 6.4).
 mRNA length: 3358 nt. MW **MRNA3**= 1093695 g/mol; **MRNA14**= 1083075 g/mol; **MRNA17**= 1104315 g/mol.

β-Gal mRNAs have been designed to produce high expression level of β-galactosidase. 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. β-Gal mRNA **#MRNA17** does not bear any additional nucleotide modifications while **#MRNA14** is modified with 5-methoxyuridine (5moU), **#MRNA3** is modified with N1-methyl-pseudouridine (N1-mψ) to reduce innate immune responses.

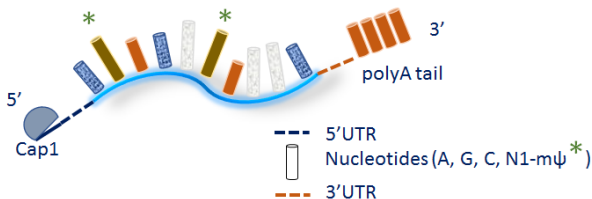
(ref# **MRNA17**):

Mature mRNA (unmodified nucleotides) with cap1 and polyA tail



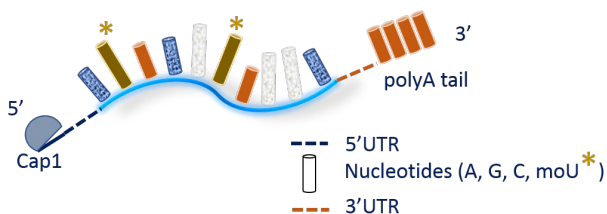
(ref# **MRNA14**):

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



(ref# **MRNA3**):

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



Applications

The MRNA3, 14 or 17 encodes for the β-galactosidase which is a product of the bacterial LacZ gene. This enzyme catalyzes the conversion of β-galactosides into monosaccharides. 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).

β-Gal detection

The levels of active β-galactosidase expression can be measured by colorimetric assays:

- CPRG assay kit (catalog # GC10002)
- ONPG assay kit (catalog # GO10001)

Or detected by histochemistry:

- X-gal staining kit (catalog # GX10003).

Kit contents

- β-Gal mRNAs-20:** 20 µg of mRNA unmodified or moU
- β-Gal mRNAs-100:** 100 µg of mRNA unmodified or moU
- β-Gal mRNAs-1000:** 1 mg of mRNA unmodified or moU

Storage

β-Gal mRNAs must be stored at -80°C.

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

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Related Products

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

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