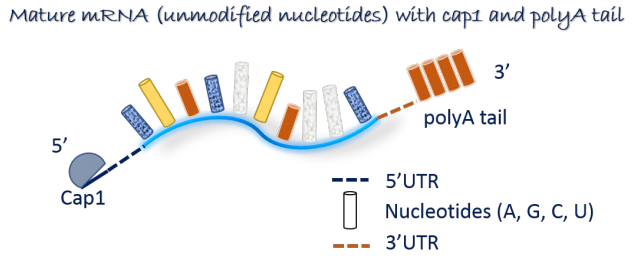
CRE mRNA mRNA
(mRNA encoding CRE Recombinase)

Description

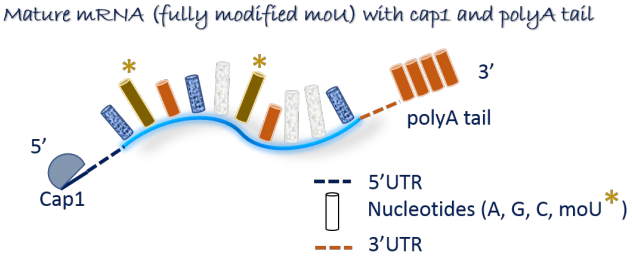
Ready-to-use stabilized CRE mRNA
Concentration: 1.0 mg/mL in 1 mM Sodium Citrate, pH 6.4.
mRNA length: 1249 nt. MW **MRNA33**= 404448 g/mol, **MRNA32**= 410809 g/mol, **MRNA26**=407629 g/mol.

CRE mRNAs have been designed to produce high expression level of CRE recombinase fused to a nuclear localization sequence (NLS). CRE Recombinase is a Type I topoisomerase from bacteriophage P1 that catalyzes the site-specific recombination of DNA between two loxP sites[1]. 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. CRE mRNA #**MRNA33** does not bear any additional nucleotide modifications while #**MRNA32** is modified with 5-methoxyuridine (5moU), #**MRNA26** is modified with N1-methyl-pseudouridine (N1-mψ) to reduce innate immune response.

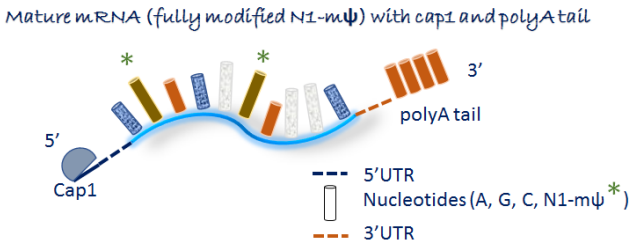
(ref# **MRNA33**):



(ref# **MRNA32**):



(ref# **MRNA26**):



Applications

CRE mRNAs resemble fully matured mRNAs with 5'cap1 structure and 3' polyA tail, therefore ready to be translated by the ribosome. MRNA32 & 33 encode for the CRE recombinase that catalyzes DNA recombination between loxP sites. Recombination products depend on the location and relative orientation of the loxP sites:

- Excision of DNA between two loxP sites
- Fusion of DNA molecules containing loxP sites
- Inversion of DNA between loxP sites

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).

1. Abremski, K. *et al,* J. Biol. Chem. 1984 ; 259.

Kit contents

CRE mRNAs-20: 20 µg of mRNA unmodified or modified.
CRE mRNAs-100: 100 µg of mRNA unmodified or modified.
CRE mRNAs-1000: 1 mg of mRNA unmodified or modified.

Storage

CRE 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

Rev 11/22 EB

Related Products

Ref	Description
MRNA30	mRNA Cas9 (unmod)
MRNA31	mRNA Cas9 (5moU)
MRNA25	mRNA Cas9 (N1mψ)
MRNA27	mRNA Cas13d (unmod)
MRNA28	mRNA Cas13d (5moU)
MRNA29	mRNA Cas13d (N1-mψ)
RM21000	RmesFect™ transfection reagent 1mL
RS31000	RmesFect™ Stem transfection reagent 1mL

Discover the complete list of mRNA at: www.ozbiosiences.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
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