

Description

β-galactosidase (β-gal), a protein product of the bacterial LacZ gene, catalyzes the conversion of β-galactosides into monosaccharides. β-gal is a common marker gene used to assess transfection efficiency.

This mRNA is capped using CleanCap® Reagent AG, TriLink's patented co-transcriptional capping technology, resulting in the naturally occurring Cap-1 structure with >95% capping efficiency¹. It is manufactured using TriLink's proprietary CleanScript™ method, polyadenylated, modified with 5-methoxyuridine, and optimized for mammalian systems. It mimics a fully processed mature mRNA.

CleanCap® Reagent AG produces a base-modified Cap-1 mRNA, which shows superior *in vivo* activity compared to Cap-0 mRNA produced by legacy capping methods such as mCap or anti-reverse cap analog (ARCA).

5-methoxyuridine is a modified uridine that can reduce immunogenic response and enhance translational efficiency of mRNAs. These properties can result in safer mRNA and increased protein expression.

CleanScript™ method is TriLink's proprietary *in vitro* transcription process that is optimized to minimize dsRNA formation and increase mRNA activity *in vivo*.

Full length: 3,421 nucleotides
ORF Length: 3,160 nucleotides

ORF sequence available online at
trilinkbiotech.com/cleancap-b-gal-mrna-5mou.html

CleanCap® beta gal mRNA (5moU) may be ordered using the following catalog numbers:

L-7208-100 (100 µg)
L-7208-1000 (1 mg)
L-7208-5 (5 x 1 mg)
L-7208-BK (Bulk amount)

1.0 mg/mL in 1 mM sodium citrate, pH 6.4

Store at or below -40°C.

Use & handling

Store at or below -40°C. Thaw and work on ice. Upon first use, pulse spin before opening and aliquot into single-use portions. Do not vortex. Use only certified RNase-free reagents and consumables with proper RNase-free technique. Use of barrier tips is recommended. Avoid freeze/thaw cycles. Do not mix with media containing serum unless first complexed with a stabilizing transfection reagent.

QC analysis

- A260/A280 ratio
- dsRNA
- Concentration
- Fragment analyzer
- Agarose gel mobility
- Capping efficiency

A standard conversion factor of 40 µg/OD260 was used to calculate quantity.

Product released by Quality Assurance. TriLink is certified ISO 9001:2015.

Troubleshooting

For any questions or technical support around this product, please reach out to support@trilinkbiotech.com

¹Final capping is dependent upon the CleanCap® Reagent, DNA template, and final mRNA sequence. Secondary structure due to RNA length and base composition can affect final capping efficiency, mRNA yield, and translation efficiency.

Related TriLink and Alphazyme products

CleanCap® M6 EGFP mRNA (N1MePsU) (cat no. L-8101)**
CleanCap® M6 FLuc mRNA (N1MePsU) (cat no. L-8102)*
CleanCap® M6 mCherry mRNA (N1MePsU) (cat no. L-8103)*
CleanCap® M6 Cas9 mRNA (N1MePsU) (cat no. L-8106)*
CleanCap® M6 EPO mRNA (N1MePsU) (cat no. L-8109)*
CleanCap® M6 Cre mRNA (N1MePsU) (cat no. L-8111)*

CleanCap® OVA mRNA (cat no. L-7610)
CleanCap® beta gal mRNA (cat no. L-7608)
CleanCap® Cas9 mRNA (cat no. L-7606)[§]
CleanCap® FLuc mRNA (cat no. L-7602)
CleanCap® EGFP mRNA (cat no. L-7601)[‡]

CleanCap® Cre mRNA (5moU) (cat no. L-7211)
CleanCap® OVA mRNA (5moU) (cat no. L-7210)
CleanCap® EPO mRNA (5moU) (cat no. L-7209)
CleanCap® Cas9 Nickase mRNA (5moU) (cat no. L-7207)[§]
CleanCap® Cas9 mRNA (5moU) (cat no. L-7206)[§]
CleanCap® Renilla Luc mRNA (5moU) (cat no. L-7204)
CleanCap® mCherry mRNA (5moU) (cat no. L-7203)

CleanCap® Fluc mRNA (5moU) (cat no. L-7202)
CleanCap® EGFP mRNA (5moU) (cat no. L-7201)[‡]

CleanCap® Reagent M6 (cat. no. N-7453)
CleanCap® Reagent AG (cat. no. N-7113)
CleanCap® Reagent AG (3' OMe) (cat. no. N-7413)
CleanCap® Reagent AU (cat. no. N-7114)

N1-Methylpseudouridine-5'-Triphosphate (cat. No. N-1081)*
5-Methoxyuridine-5'-Triphosphate (cat. no. N-1093)
Pseudouridine-5'-Triphosphate (cat. No. N-1019)
Nucleoside-5'-Triphosphate (NTP) Set (cat. no. N-1505)
Adenosine-5'-Triphosphate, ATP (cat. no. N-1501)
Cytidine-5'-Triphosphate, CTP (cat. no. N-1502)
Guanosine-5'-Triphosphate, GTP (cat. no. N-1503)
Uridine-5'-Triphosphate, UTP (cat. no. N-1504)

T7 RNA Polymerase (Alphazyme cat. No E057)
Inorganic Pyrophosphatase (E. coli) (Alphazyme cat. No E051)
Engineered RNase Inhibitor (Alphazyme cat. No E075)

Related TriLink services

TriLink offers RUO and GMP custom CleanCap® Cap-1 mRNA production services in addition to our catalog mRNA offerings. Visit our website trilinkbiotech.com/mrna-cdmo-services or contact us at mrna-services@trilinkbiotech.com for more information.

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[§]CleanCap® M6 Cas9 mRNA (N1MePsU), CleanCap® Cas9 mRNA (5moU), and CleanCap® Cas9 Nickase mRNA (5moU), CleanCap® Cas9 mRNA, and/or other products or technologies relating to the Cas System (collectively, the "Cas Products") are provided under a Limited License granted by the Broad Institute, the Massachusetts Institute of Technology, President and Fellows of Harvard College, University of Iowa, University of Tokyo and Rockefeller University to the Buyer of the Cas Products, conveying to the Limited Licensee the non-transferrable right to use the purchased amount of the Cas Products solely for internal, non-clinical research to be conducted by the Limited Licensee found in trilinkbiotech.com/legal-notices

[‡]EGFP products are sold with a Limited Use Label License under sublicense with Life Technologies, Inc. Please review Limited License at trilinkbiotech.com/gfp-label-license.

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trilinkbiotech.com/cleancap-research-license

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- 7. Termination.** Your right to have and use the Products will terminate immediately if Buyer fails to comply with the terms and conditions of this Agreement. Upon such termination of rights, Buyer shall destroy all Products, or any components or derivatives thereof, and notify TriLink BioTechnologies, LLC of such in writing.
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