TriLink BIOTECHNOLOGIES
part of Maravai LifeSciences

CleanCap® M6 EGFP mRNA (N1MePsU)

Enhanced green fluorescent protein mRNA Capped with CleanCap® M6 analog, modified with N1-methylpseudouridine

Catalog # L-8101

Description

The EGFP mRNA expresses an enhanced version of the green fluorescent protein, originally isolated from the jellyfish, *Aequorea victoria*. EGFP is a commonly used direct detection reporter in mammalian cell culture, yielding bright green fluorescence with an emission peak at 509 nm.

This mRNA is capped using CleanCap® Reagent M6, TriLink's patented co-transcriptional capping technology, resulting in the naturally occurring Cap-1 structure with >95% capping efficiency. It is polyadenylated, modified with N1-methylpseudouridine, and optimized for mammalian systems. It mimics a fully processed mature mRNA.

CleanCap® Reagent M6, otherwise known as CleanCap® m6AG 3'OMe, 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). CleanCap® Reagent M6 may further increase protein expression relative to previous generations of cap analogs, such as CleanCap® AG or CleanCap® AG (3'OMe), or mRNAs produced by enzymatic capping strategies[1].

N1-methylpseudouridine 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.

Full length: 997 nucleotides
ORF Length: 736 nucleotides

ORF sequence available online at trilinkbiotech.com/cleancap-m6-egfp-mrna-n1mepsu.html

CleanCap® M6 EGFP mRNA (N1MePsU)*‡ may be ordered using the following catalog numbers:

L-8101-100 (100 µg)
L-8101-1000 (1 mg)
L-8101-5 (5 x 1 mg)
L-8101-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
- Fragment analyzer
- dsRNA
- Agarose gel mobility
- Concentration
- 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

[1]Final 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 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® beta gal mRNA (5moU) (cat no. L-7208)
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.

CleanCap® products | Research license agreement

trilinkbiotech.com/cleancap-research-license

PURCHASE AND/OR USE OF THIS PRODUCT SHALL CONSTITUTE ACKNOWLEDGMENT AND ACCEPTANCE OF THESE TERMS AND CONDITIONS.

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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.

8. Miscellaneous. This Agreement sets forth the complete and entire agreement of the Parties with respect to the subject matter hereof and supersedes and terminates all prior agreements and understandings between the Parties. No subsequent amendment or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by the respective authorized officers of the Parties. This Agreement shall not be assigned or otherwise transferred by the buyer.

GFP patents‡

Title	Publication/ Patent Number	Serial Number	Filing Date	Country
FACS-Optimized Green Fluorescent Protein Mutants with Different Excitation Wavelengths	Expired	60/008,232	6-Dec-95	United States
FACS-Optimized Green Fluorescent Protein Mutants with Different Excitation Wavelengths	5,968,738	08/761,771	6-Dec-96	United States
FACS-Optimized Mutants of the Green Fluorescent Protein (GFP)	Expired	60/010,960	1-Feb-96	United States
FACS-Optimized Mutants of the Green Fluorescent Protein (GFP)	5,804,387	08/791,332	31-Jan-97	United States
Fluorescence-Based Isolation of Differentially Induced Genes	5,994,077	08/926,556	10-Sep-97	United States
FACS-Optimized Mutants of the Green Fluorescent Protein (GFP)	6,090,919	09/135,418	17-Aug-98	United States
Modified Green Fluorescent Proteins	5,625,048	08/337,915	10-Nov-94	United States
Modified Green Fluorescent Proteins	6,319,669	08/727,452	20-Mar-97	United States
Modified Green Fluorescent Proteins	6,066,476	08/753,144	20-Nov-96	United States
Modified Green Fluorescent Proteins	5,777,079	08/753,143	20-Nov-96	United States
Modified Green Fluorescent Proteins	6,800,733	10/024,686	17-Dec-01	United States
Modified Green Fluorescent Proteins	3283523	08-520626	13-Nov-95	Japan
Modified Green Fluorescent Proteins	702205	41550/96	13-Nov-95	Australia
Modified Green Fluorescent Proteins	2,205,006	2,205,006	13-Nov-95	Canada
Modified Green Fluorescent Proteins	2,343,586	2,343,586	13-Nov-95	Canada
Modified Green Fluorescent Proteins	804457	95939898.3	13-Nov-95	Europe - including corresponding patents in AT, BE, CH, DE, DK, ES, FR, GR, IE, IT, LI, LU, MC, NL, PT, SE, GB
Modified Green Fluorescent Proteins	1104769 (pending)	1105011.9	13-Nov-95	Europe
Modified Green Fluorescent Proteins	295 22 103			
(Utility Model)	9522103	13-Nov-95	Germany	
Long Wavelength Engineered Fluorescent Proteins	6,124,128	08/706,408	30-Aug-96	United States
Long Wavelength Engineered Fluorescent Proteins	6,054,321	08/911,825	15-Aug-97	United States
Long Wavelength Engineered Fluorescent Proteins	6,077,707	08/974,737	19-Nov-97	United States
Long Wavelength Engineered Fluorescent Proteins	6,403,374	09/465,142	16-Dec-99	United States
Long Wavelength Engineered Fluorescent Proteins	6,593,135	09/575,847	19-May-00	United States
Long Wavelength Engineered Fluorescent Proteins	6,780,975	10/071,976	5-Feb-02	United States
Long Wavelength Engineered Fluorescent Proteins	7,544,776	10/620,099	14-Jul-03	United States
Long Wavelength Engineered Fluorescent Proteins	7,560,287	10/924,232	23-Aug-04	United States
Long Wavelength Engineered Fluorescent Proteins	pending	13/011,432	21-Jan-11	United States
Long Wavelength Engineered Fluorescent Proteins	4322992	10-510109	15-Aug-97	Japan
Long Wavelength Engineered Fluorescent Proteins	4427222	2001-586334	17-May-01	Japan
Long Wavelength Engineered Fluorescent Proteins	727088	43277/97	15-Aug-97	Australia
Long Wavelength Engineered Fluorescent Proteins	767375	23196/01	15-Aug-97	Australia
Long Wavelength Engineered Fluorescent Proteins	2,232,242	2,232,242	15-Aug-97	Canada
Long Wavelength Engineered Fluorescent Proteins	2408302 (pending)	2,408,302	17-May-01	Canada
Long Wavelength Engineered Fluorescent Proteins	886644	97941350.7	15-Aug-97	Europe - including corresponding patents in CH, DE, DK, ES, FR, IE, IT, LI, NL, SE, GB
Long Wavelength Engineered Fluorescent Proteins	1285065	20010937550	17-May-01	Europe - including corresponding patents in CH, DE, DK, ES, FR, IE, IT, LI, NL, SE, GB
Long Wavelength Engineered Fluorescent Proteins	Granted	982972	15-Aug-97	Mexico
Fluorescent Proteins	6,919,186	09/967,301	28-Sep-01	United States
Fluorescent Proteins	7,091,317	10/757,624	14-Jan-04	United States
Fluorescent Proteins and methods of using same	7,300,762	11/251,209	14-Oct-05	United States
Mutants of Green Fluorescent Protein	EP1381625	EP01972260.2	28-Sep-01	Europe (BE, CH, DE, ES, FR, IT, LI, NL, SE)
Mutants of Green Fluorescent Protein	2,445,035	2,445,035	28-Sep-01	Canada
Mutants of Green Fluorescent Protein	2001292040	2001292040	28-Sep-01	Australia
Mutants of Green Fluorescent Protein	WO 02/085936	PCT/01GB/04363	28-Sep-01	PCT
Novel Fluorescent Proteins	6,172,188	08/819,612	31-Jan-96	United States
Novel Fluorescent Proteins	6,818,443	09/872,364	1-Jun-01	United States
Novel Fluorescent Proteins	7,314,915	10/947,178	23-Sep-04	United States
Novel Variants of Green Fluorescent Protein, GFP	2,232,727	2,232,727	31-Jan-96	Canada
Novel Variants of Green Fluorescent Protein, GFP	EP0851874	96900890.3	31-Jan-96	Europe (BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, NL, SE)
Novel Variants of Green Fluorescent Protein, GFP	WO 97/11094	PCT/1996DK/00051	31-Jan-96	PCT
Novel Fluorescent Proteins	7,001,986	09/887,784	19-Jun-01	United States
Nucleic Acids Encoding Fluorescent Proteins and Methods of Using the Same	7,476,518	11/206,904	19-Aug-05	United States
Fluorescent Proteins	2001279669	2001279669	18-Jun-01	Australia
Fluorescent Proteins	2,410,413	2,410,413	18-Jun-01	Canada
Fluorescent Proteins	EP1299414	1957861.6	18-Jun-01	Europe (BE, CH, CY, DE, DK, ES, FR, GB, IE, IT, LI, LU, MC, NL, SE,TR)
Novel Fluorescent Proteins	4459944	2006-304095	9-Nov-06	Japan
Novel Fluorescent Proteins	WO 01/98338	PCT/2001EP/06848	18-Jun-01	PCT