

## New England Biolabs Certificate of Analysis

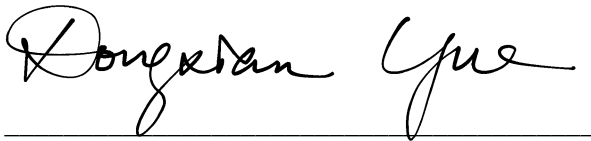
**Product Name:** mRNA Cap 2'-O-Methyltransferase  
**Catalog Number:** M0366S  
**Concentration:** 50,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to methylate 10 pmoles of 80 nt long capped RNA transcript in 1 hour at 37°C.  
**Lot Number:** 10025858  
**Expiration Date:** 09/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 100 mM NaCl, 20 mM Tris-HCl (pH 8.0), 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 0.1 % Triton®X-100  
**Specification Version:** PS-M0366S v1.0

| mRNA Cap 2'-O-Methyltransferase Component List |                                 |            |                      |
|------------------------------------------------|---------------------------------|------------|----------------------|
| NEB Part Number                                | Component Description           | Lot Number | Individual QC Result |
| M0366SVIAL                                     | mRNA Cap 2'-O-Methyltransferase | 10021698   | Pass                 |
| B9003SVIAL                                     | S-adenosylmethionine (SAM)      | 10028001   | Pass                 |
| B2080AVIAL                                     | 10X Capping Buffer              | 10020221   | Pass                 |

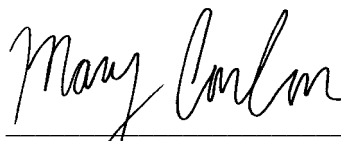
| Assay Name/Specification                                                                                                                                                                                                                                                                                                 | Lot # 10025858 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in Capping Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of mRNA Cap 2'-O-Methyltransferase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.           | Pass           |
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 µl reaction in Capping Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 50 units of mRNA Cap 2'-O-Methyltransferase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | Pass           |
| <b>Protein Purity Assay (SDS-PAGE)</b><br>mRNA Cap 2'-O-Methyltransferase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.                                                                                                                                                               | Pass           |
| <b>RNase Activity (Extended Digestion)</b><br>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA                                                                                                                                                                                          | Pass           |

| Assay Name/Specification                                                                                                                                                                                                    | Lot # 10025858 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| and a minimum of 50 units of mRNA Cap 2'-O-Methyltransferase is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. |                |

This product has been tested and shown to be in compliance with all specifications.



Dongxian Yue  
Production Scientist  
12 Sep 2018



Mary Conlon  
Packaging Quality Control Inspector  
27 Dec 2018