

## New England Biolabs Certificate of Analysis

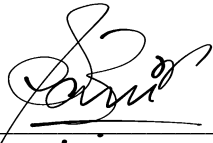
**Product Name:** mRNA Cap 2'-O-Methyltransferase  
**Catalog Number:** M0366S  
**Concentration:** 50,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to methylate 10 pmoles of 80 nt long capped RNA transcript in 1 hour at 37°C.  
**Lot Number:** 10052373  
**Expiration Date:** 01/2021  
**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 |
| B9003SVIAL                                     | S-adenosylmethionine (SAM) | 10049759   | Pass                 |

| Assay Name/Specification   | Lot # 10052373 |
|--|----------------|
| <p><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 &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>         | Pass           |
| <p><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 &lt;0.1% of the total radioactivity.</p> | Pass           |
| <p><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.</p>  | Pass           |
| <p><b>RNase Activity (Extended Digestion)</b><br/>           A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 50 units of mRNA Cap 2'-O-Methyltransferase is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined</p>                | Pass           |

| Assay Name/Specification                            | Lot # 10052373 |
|---|----------------|
| by gel electrophoresis using fluorescent detection. |                |

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



Bhairavi Jani  
Production Scientist  
25 Jan 2019



Jay Minichiello  
Packaging Quality Control Inspector  
07 Aug 2019