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: 10040429
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

<table>
<thead>
<tr>
<th>NEB Part Number</th>
<th>Component Description</th>
<th>Lot Number</th>
<th>Individual QC Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>M0366SVIAL</td>
<td>mRNA Cap 2'-O-Methyltransferase</td>
<td>10035187</td>
<td>Pass</td>
</tr>
<tr>
<td>B9003SVIAL</td>
<td>S-adenosylmethionine (SAM)</td>
<td>10041003</td>
<td>Pass</td>
</tr>
<tr>
<td>B2080AVIAL</td>
<td>10X Capping Buffer</td>
<td>10035769</td>
<td>Pass</td>
</tr>
</tbody>
</table>

**Assay Name/Specification**

**Endonuclease Activity (Nicking)**
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.

**Exonuclease Activity (Radioactivity Release)**
A 50 µl reaction in Capping Buffer containing 1 µg of a mixture of single and double-stranded[^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.

**Protein Purity Assay (SDS-PAGE)**
mRNA Cap 2'-O-Methyltransferase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

**RNase Activity (Extended Digestion)**
A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA
<table>
<thead>
<tr>
<th>Assay Name/Specification</th>
<th>Lot # 10040429</th>
</tr>
</thead>
<tbody>
<tr>
<td>and a minimum of 50 units of mRNA Cap 2'-O-Methyltransferase is incubated at 37°C.</td>
<td></td>
</tr>
<tr>
<td>After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined</td>
<td></td>
</tr>
<tr>
<td>by gel electrophoresis using fluorescent detection.</td>
<td></td>
</tr>
</tbody>
</table>

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

Bhairavi Jani  
Production Scientist  
25 Jan 2019

Michael Tonello  
Packaging Quality Control Inspector  
29 Apr 2019