

## New England Biolabs Certificate of Analysis

*Product Name:* mRNA Cap 2'-O-Methyltransferase  
*Catalog #:* M0366S  
*Concentration:* 50,000 units/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 #:* 0131610  
*Assay Date:* 10/2016  
*Expiration Date:* 10/2018  
*Storage Temp:* -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  
*Effective Date:* 13 Aug 2015

Assay Name/Specification (minimum release criteria)	Lot #0131610
<b>Endonuclease Activity (Nicking)</b> - 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.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 µl reaction in Capping Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> 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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - mRNA Cap 2'-O-Methyltransferase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<b>RNase Activity (Extended Digestion)</b> - 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, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	<b>Pass</b>



Authorized by  
Derek Robinson  
13 Aug 2015



Inspected by  
Bhairavi Jani  
06 Oct 2016

