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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 #:	*0041409*
Assay Date:	*09/2014*
Expiration Date:	*09/2016*
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:	*04 Mar 2014*

Assay Name/Specification (minimum release criteria)	**Lot #0041409**
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.	**Pass**
Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in Capping Buffer containing 1 µg of a mixture of single and double-stranded [^{3}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**
Protein Purity Assay (SDS-PAGE) - mRNA Cap 2'-O-Methyltransferase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
RNase Activity (Extended Digestion) - 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.	**Pass**

Authorized by
Derek Robinson
04 Mar 2014

Inspected by
Bhairavi Jani
25 Sep 2014

nqa ISO 9001 Registered Quality Management
nqa ISO 14001 Registered Environmental Management
nqa ISO 13485 Registered Medical Devices