NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*mRNA Decapping Enzyme*
Catalog Number:	*M0608S*
Concentration:	*100,000 U/ml*
Unit Definition:	*One unit is defined as the amount of mRNA Decapping Enzyme required to convert 50% of a 500 nM m7G-capped substrate to a 5'-monophosphorylated form in a total reaction volume of 20 µl in 1 hour at 37°C.*
Packaging Lot Number:	*10140320*
Expiration Date:	*03/2024*
Storage Temperature:	*-20°C*
Storage Conditions:	*10 mM Tris-HCl , 300 mM NaCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)*
Specification Version:	*PS-M0608S v2.0*

mRNA Decapping Enzyme Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
M0608SVIAL	mRNA Decapping Enzyme	10140319	**Pass**
B0608SVIAL	10X MDE Decapping Buffer	10122104	**Pass**

Assay Name/Specification	**Lot # 10140320**
Endonuclease Activity (Nicking) A 50 µl reaction in 1X mRNA Decapping Enzyme Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of mRNA Decapping Enzyme incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Phosphatase Activity (pNPP) A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl2 containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units of mRNA Decapping Enzyme incubated for 4 hours at 37°C yields <0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in 1X mRNA Decapping Enzyme Reaction Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 100 units of mRNA Decapping Enzyme incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	**Pass**

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Assay Name/Specification	Lot # 10140320
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 100 units of mRNA Decapping Enzyme is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**
Protein Purity Assay (SDS-PAGE) mRNA Decapping Enzyme is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Bhairavi Jani
Production Scientist
09 Mar 2022

Michael Tonello
Packaging Quality Control Inspector
09 Mar 2022