

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: 10202233
Expiration Date: 07/2025
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 | 10198083 | Pass |
| B0608SVIAL | 10X MDE Decapping Buffer | 10201078 | Pass |

| Assay Name/Specification | Lot # 10202233 |
|--|----------------|
| <p>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.</p> | Pass |
| <p>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 [³H] 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.</p> | Pass |
| <p>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.</p> | Pass |

| Assay Name/Specification | Lot # 10202233 |
|---|----------------|
| <p>Protein Purity Assay (SDS-PAGE) mRNA Decapping Enzyme is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> | Pass |
| <p>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.</p> | Pass |

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

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Jessica Cane
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17 Jul 2023



Josh Hersey
Packaging Quality Control Inspector
25 Jul 2023