

## New England Biolabs Certificate of Analysis

**Product Name:** RNA 5' Pyrophosphohydrolase (RppH)  
**Catalog Number:** M0356S  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is the amount of enzyme that converts 1 µg 300 mer RNA transcript into a XRN-1 digestible RNA in 30 minutes at 37°C.  
**Lot Number:** 10037153  
**Expiration Date:** 12/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 200 mM NaCl, 20 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.01% Triton®X-100, (pH 7.5 @ 25°C)  
**Specification Version:** PS-M0356S v1.0

| RNA 5' Pyrophosphohydrolase (RppH) Component List |                                    |            |                      |
|---|------------------------------------|------------|----------------------|
| NEB Part Number                                   | Component Description              | Lot Number | Individual QC Result |
| M0356SVIAL  | RNA 5' Pyrophosphohydrolase (RppH) | 10028256   | Pass                 |
| B7002SVIAL  | NEBuffer™ 2                        | 10013286   | Pass                 |

| Assay Name/Specification  | Lot # 10037153 |
|---|----------------|
| <p><b>Endonuclease Activity (Nicking)</b><br/>           A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 25 units of RNA 5' Pyrophosphohydrolase (RppH) incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>   | Pass           |
| <p><b>Exonuclease Activity (Radioactivity Release)</b><br/>           A 50 µl reaction in NEBuffer 2 containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 25 units of RNA 5' Pyrophosphohydrolase (RppH) incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>   | Pass           |
| <p><b>Phosphatase Activity (pNPP)</b><br/>           A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 25 units of RNA 5' Pyrophosphohydrolase (RppH) incubated for 4 hours at 37°C yields &lt;0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p> | Pass           |
| <p><b>Protein Purity Assay (SDS-PAGE)</b></p>   | Pass           |

| Assay Name/Specification   | Lot # 10037153     |
|--|--------------------|
| <p>RNA 5' Pyrophosphohydrolase (RppH) is <math>\geq</math> 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> <p><b>RNase Activity Assay (4 Hour Digestion)</b><br/>A 10 <math>\mu</math>l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 5 units of RNA 5' Pyrophosphohydrolase (RppH) is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p> | <p><b>Pass</b></p> |

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



Tony Spear-Alfonso  
Production Scientist  
28 Jun 2018



Michael Tonello  
Packaging Quality Control Inspector  
11 Mar 2019