

## 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.  
**Packaging Lot Number:** 10203680  
**Expiration Date:** 12/2024  
**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)	10174457	Pass
B7002SVIAL	NEBuffer™ 2	10173666	Pass

Assay Name/Specification	Lot # 10203680
<p><b>Endonuclease Activity (Nicking)</b>            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>            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>            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 # 10203680
<p>RNA 5' Pyrophosphohydrolase (RppH) is <math>\geq 95\%</math> pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> <p><b>RNase Activity Assay (4 Hour Digestion)</b> 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, <math>&gt;90\%</math> 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.

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Bo Wu  
Production Scientist  
12 Dec 2022



Josh Hersey  
Packaging Quality Control Inspector  
01 Sep 2023