

## New England Biolabs Certificate of Analysis

**Product Name:** Pyrophosphatase, inorganic (yeast)  
**Catalog Number:** M2403S  
**Concentration:** 100 U/ml  
**Unit Definition:** One unit is the amount of enzyme that will generate 1  $\mu$ mol of phosphate per minute from inorganic pyrophosphate under standard reaction conditions.  
**Packaging Lot Number:** 10056311  
**Expiration Date:** 08/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 100 mM KCl, 20 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 8.0 @ 25°C)  
**Specification Version:** PS-M2403S/L v2.0

Pyrophosphatase, inorganic (yeast) Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M2403SVIAL	Pyrophosphatase, inorganic (yeast)	10051576	Pass

Assay Name/Specification	Lot # 10056311
<p><b>Endonuclease Activity (Nicking)</b>            A 50 <math>\mu</math>l reaction in NEBuffer 4 containing 1 <math>\mu</math>g of supercoiled PhiX174 DNA and a minimum of 1 unit of Pyrophosphatase, Inorganic (yeast) 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>Phosphatase Activity (pNPP)</b>            A 100 <math>\mu</math>l reaction in NEBuffer 3 containing 10 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 1 unit Pyrophosphatase, Inorganic (yeast) incubated for 1 hour at 37°C yields &lt;0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p><b>RNase Activity (Extended 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 0.1 unit of Pyrophosphatase, Inorganic (yeast) 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>	Pass
<b>dNTPase Activity</b>	Pass

Assay Name/Specification	Lot # 10056311
<p>A 0.5 ml reaction in ThermoPol® Reaction Buffer in the presence of 200 µM each dNTPs and a minimum of 1 unit Pyrophosphatase, Inorganic (yeast) incubated for 1 hour at 37°C results in &lt;0.05 µmol of inorganic phosphate from dNTPs as determined by the AAM assay.</p>	
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in NEBuffer 4 containing 1 µg of Lambda DNA and a minimum of 1 unit of Pyrophosphatase, Inorganic (yeast) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 1 unit of Pyrophosphatase, Inorganic (yeast) incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>

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



Tim Meixsell  
Production Scientist  
12 Aug 2019



Michael Tonello  
Packaging Quality Control Inspector  
11 Dec 2019