

## 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.  
**Lot Number:** 10026141  
**Expiration Date:** 08/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 100 mM KCl, 20 mM Tris-HCl (pH 8.0), 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol  
**Specification Version:** PS-M2403S/L v1.0

Pyrophosphatase, inorganic (yeast) Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M2403SVIAL	Pyrophosphatase, inorganic (yeast)	10018050	Pass

Assay Name/Specification	Lot # 10026141
<b>Phosphatase Activity (pNPP)</b> A 100 $\mu$ 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 <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
<b>RNase Activity (Extended Digestion)</b> A 10 $\mu$ 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, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass
<b>dNTPase Activity</b> A 0.5 ml reaction in ThermoPol Reaction Buffer in the presence of 200 $\mu$ M each dNTPs and a minimum of 1 unit Pyrophosphatase, Inorganic (yeast) incubated for 1 hour at 37°C results in <0.05 $\mu$ M of inorganic phosphate from dNTPs as determined by the AAM assay.	Pass
<b>Endonuclease Activity (Nicking)</b>	Pass

Assay Name/Specification	Lot # 10026141
<p>A 50 µl reaction in NEBuffer 4 containing 1 µg 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>	
<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>
<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>

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



Tim Meixsell  
Production Scientist  
16 Aug 2018



Michael Tonello  
Packaging Quality Control Inspector  
12 Nov 2018