

## New England Biolabs Certificate of Analysis

**Product Name:** *Thermostable Inorganic Pyrophosphatase*  
**Catalog Number:** M0296S  
**Concentration:** 2,000 U/ml  
**Unit Definition:** One unit is the amount of enzyme that will generate 1 µmol of phosphate per minute from inorganic pyrophosphate under standard reaction conditions (a 10 minute reaction at 75°C in 50 mM Tricine [pH 8.5], 1 mM MgCl<sub>2</sub>, 0.32 mM PPi, reaction volume of 0.5 ml).  
**Packaging Lot Number:** 10070707  
**Expiration Date:** 03/2022  
**Storage Temperature:** -20°C  
**Storage Conditions:** 20 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 8.0 @ 25°C)  
**Specification Version:** PS-M0296S/L v1.0

Thermostable Inorganic Pyrophosphatase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0296SVIAL	Thermostable Inorganic Pyrophosphatase	10070706	Pass

Assay Name/Specification	Lot # 10070707
<p><b>dNTPase Activity</b>            A 500 µl reaction in CircumVent™ Sequencing Buffer in the presence of 200 µM each dNTPs and a minimum of 100 units Thermostable Inorganic Pyrophosphatase incubated for 1 hour at 75°C results in &lt;0.01 µmole of inorganic phosphate from dNTPs as determined by the AAM assay.</p>	Pass
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of Thermostable Inorganic Pyrophosphatase incubated for 4 hours at 75°C results in &lt;20% 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 1 containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 100 units of Thermostable Inorganic Pyrophosphatase incubated for 4 hours at 75°C releases &lt;0.1% of the total radioactivity.</p>	Pass

Assay Name/Specification	Lot # 10070707
<p><b>Phosphatase Activity (pNPP)</b> A 1 ml reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 10 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units of Thermostable Inorganic Pyrophosphatase incubated for 30 minutes at 75°C yields &lt;0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	<p><b>Pass</b></p>

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit [www.neb.com/trademarks](http://www.neb.com/trademarks) for additional information.



Timothy Meixsell  
Production Scientist  
11 Sep 2020



Josh Hersey  
Packaging Quality Control Inspector  
11 Sep 2020