

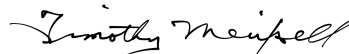
## New England Biolabs Certificate of Analysis

*Product Name:* *Thermostable Inorganic Pyrophosphatase*  
*Catalog #:* *M0296S/L*  
*Concentration:* *2,000 units/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).*  
*Lot #:* *0091708*  
*Assay Date:* *08/2017*  
*Expiration Date:* *08/2019*  
*Storage Temp:* *-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*  
*Effective Date:* *23 May 2018*

Assay Name/Specification (minimum release criteria)	Lot #0091708
<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 <0.01 μmole of inorganic phosphate from dNTPs as determined by the AAM assay.	<b>Pass</b>
<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 <20% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<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] <i>E. coli</i> DNA and a minimum of 100 units of Thermostable Inorganic Pyrophosphatase incubated for 4 hours at 75°C releases <0.1% of the total radioactivity.	<b>Pass</b>
<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 <i>p</i> -Nitrophenyl Phosphate (pNPP) and a minimum of 100 units of Thermostable Inorganic Pyrophosphatase incubated for 30 minutes at 75°C yields <0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	<b>Pass</b>



Authorized by  
Derek Robinson  
23 May 2018



Inspected by  
Timothy Meixsell  
14 Aug 2017

