NEW ENGLAND BioLabs Inc.
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# New England Biolabs
# Certificate of Analysis

| | |
|---|---|
| *Product Name:* | *Pyrophosphatase, inorganic (yeast)* |
| *Catalog Number:* | *M2403L* |
| *Concentration:* | *100 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.* |
| *Packaging Lot Number:* | *10091305* |
| *Expiration Date:* | *08/2022* |
| *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** |
| M2403LVIAL | Pyrophosphatase, inorganic (yeast) | 10080147 | **Pass** |

| **Assay Name/Specification** | **Lot # 10091305** |
|---|---|
| **dNTPase Activity**<br>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 <0.05 µmol of inorganic phosphate from dNTPs as determined by the AAM assay. | **Pass** |
| **Endonuclease Activity (Nicking)**<br>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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |
| **Exonuclease Activity (Radioactivity Release)**<br>A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [ $^3$H] E. coli DNA and a minimum of 1 unit of Pyrophosphatase, Inorganic (yeast) incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity. | **Pass** |
| **Non-Specific DNase Activity (16 Hour)** | **Pass** |

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| Assay Name/Specification | Lot # 10091305 |
|---|---|
| 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 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | |
| **Phosphatase Activity (pNPP)**<br>A 100 µl 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** |
| **RNase Activity (Extended Digestion)**<br>A 10 µl 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 37ºC. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | **Pass** |

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 for additional information.

Timothy Meixsell
Production Scientist
10 Dec 2020

Michael Tonello
Packaging Quality Control Inspector
10 Dec 2020