

New England Biolabs Product Specification

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| Product Name: | <i>Pyrophosphatase, Inorganic (yeast)</i> |
| Catalog #: | <i>M2403S/L</i> |
| Concentration: | <i>100 units/ml</i> |
| Unit Definition: | <i>One unit is the amount of enzyme that will generate 1 μmol of phosphate per minute from inorganic pyrophosphate under standard reaction conditions.</i> |
| Shelf Life: | <i>24 months</i> |
| Storage Temp: | <i>-20°C</i> |
| Storage Conditions: | <i>100 mM KCl , 20 mM Tris-HCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , (pH 8.0 @ 25°C)</i> |
| Specification Version: | <i>PS-M2403S/L v2.0</i> |
| Effective Date: | <i>14 Jan 2019</i> |

Assay Name/Specification (minimum release criteria)

dNTPase Activity - 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.

Endonuclease Activity (Nicking) - 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 <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Exonuclease Activity (Radioactivity Release) - A 50 μl reaction in NEBuffer 4 containing 1 μg of a mixture of single and double-stranded [³H] *E. coli* DNA and a minimum of 1 unit of Pyrophosphatase, Inorganic (yeast) incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Non-Specific DNase Activity (16 Hour) - 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.

Phosphatase Activity (pNPP) - 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.

RNase Activity (Extended Digestion) - 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 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.



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Date 14 Jan 2019

Derek Robinson
Director of Quality Control

