240 County Road Ipswich, MA 01938-2723

Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

## New England Biolabs Product Specification

Product Name: Pyrophosphatase, Inorganic (yeast)

Catalog #: M2403S/L
Concentration: 100 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.

Shelf Life: 24 months
Storage Temp: -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

Effective Date: 14 Jan 2019

## Assay Name/Specification (minimum release criteria)

dNTPase Activity - 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  $\mu$ mol of inorganic phosphate from dNTPs as determined by the AAM assay.

Endonuclease Activity (Nicking) - A 50  $\mu$ l reaction in NEBuffer 4 containing 1  $\mu$ g 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  $\mu$ l reaction in NEBuffer 4 containing 1  $\mu$ g 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 37°C releases <0.1% of the total radioactivity.

Non-Specific DNase Activity (16 Hour) - A 50  $\mu$ l reaction in NEBuffer 4 containing 1  $\mu$ g 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.

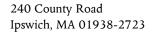
Phosphatase Activity (pNPP) - A 100  $\mu$ l reaction in NEBuffer 3 containing 10 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 1 unit Pyrophosphatase, Inorganic (yeast) incubated for 1 hour at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

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.

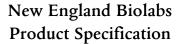








Tel 978-927-5054 Fax 978-921-1350  $www.neb.com\\ info@neb.com$ 



Kun Kotum

NEW ENGLAND
BioLabs Inc.

Date 14 Jan 2019

Derek Robinson Director of Quality Control





