New England Biolabs
Product Specification

Product Name: Pyrophosphatase, Inorganic (E. coli)
Catalog #: M0361S/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 NaCl, 20 mM Tris-HCl (pH 8.0), 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol
Specification Version: PS-M0361S/L v2.0
Effective Date: 26 Feb 2014

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 0.5 units of Pyrophosphatase, Inorganic (E. coli) 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 0.5 units of Pyrophosphatase, Inorganic (E. coli) incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Phosphatase Activity (pNPP) - A 100 µl reaction in NEBuffer 4 containing 10 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 1 unit Pyrophosphatase, Inorganic (E. coli) incubated for 1 hour at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

Protein Purity Assay (SDS-PAGE) - Pyrophosphatase, Inorganic (E. coli) is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

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 (E. coli) is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

Derek Robinson
Director of Quality Control

Date 26 Feb 2014