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New England Biolabs
Product Specification

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 MgCl2, 0.32 mM PPi, reaction volume of 0.5 ml).*
Shelf Life:	*24 months*
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)

dNTPase Activity - 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.

Endonuclease Activity (Nicking) - 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.

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in NEBuffer 1 containing 1 µg of a mixture of single and double-stranded [^{3}H] *E. coli* 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.

Phosphatase Activity (pNPP) - A 1 ml reaction in 1M Diethanolamine, pH 9.8, 0.5 mM $MgCl_2$ containing 10 mM *p*-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.

Date 23 May 2018

Derek Robinson
Director of Quality Control

ISO 9001 Registered Quality Management
ISO 14001 Registered Environmental Management
ISO 13485 Registered Medical Devices