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New England Biolabs
Product Specification

Product Name: *Lambda Protein Phosphatase (Lambda PP)*

Catalog #:   *P0753S/L*

Concentration: *400,000 units/ml*

Unit Definition: *One unit is defined as the amount of enzyme that hydrolyzes 1 nmol of p-Nitrophenyl Phosphate in 1 minute at 30°C in a total reaction volume of 50 µl.*

Shelf Life: *24 months*

Storage Temp: *-80°C*

Storage Conditions: *100 mM NaCl , 50 mM HEPES , 2 mM DTT , 0.1 mM EGTA , 0.1 mM MnCl2 , 50 % Glycerol , 0.01 % Brij 35, (pH 7.5 @ 25°C)*

Specification Version: *PS-P0753S/L v1.0*

Effective Date: *19 Jun 2018*

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 400 units of Lambda Protein Phosphatase (Lambda PP) incubated for 4 hours at 30°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] *E. coli* DNA and a minimum of 400 units of Lambda Protein Phosphatase (Lambda PP) incubated for 4 hours at 30°C releases <0.1% of the total radioactivity.

Protease Activity (SDS-PAGE) - A 20 µl reaction in 1X CutSmart® Buffer containing 24 µg of a standard mixture of proteins and a minimum of 2,000 units of Lambda Protein Phosphatase (Lambda PP) incubated for 20 hours at 37°C, results in no detectable degradation of the protein mixture as determined by SDS-PAGE with 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 400 units of Lambda Protein Phosphatase (Lambda PP) 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.

Date   19 Jun 2018

Derek Robinson
Director of Quality Control