# 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 [³H] 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.

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Director of Quality Control

Date  
19 Jun 2018

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