

## Lambda Exonuclease



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M0262S 007140716071

# M0262S



1,000 units 5,000 U/ml Lot: 0071407

RECOMBINANT Store at -20°C Exp: 7/16

**Description:** A highly processive enzyme that acts in the 5' to 3' direction, catalyzing the removal of 5' mononucleotides from duplex DNA. The preferred substrate is 5'-phosphorylated double stranded DNA, although it will also degrade single-stranded and non-phosphorylated substrates at a greatly reduced rate. Lambda Exonuclease is unable to initiate DNA digestion at nicks or gaps (1).

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**Source:** A genetic fusion of the *E. coli* Lambda Exonuclease gene with the gene encoding maltose binding protein (MBP). Following affinity chromatography, Lambda Exonuclease is cleaved from the fusion construct and purified away from MBP.

Supplied in: 50 mM NaCl, 25 mM Tris-HCl (pH 8.0), 0.1 mM EDTA, 1 mM dithiothreitol and 50% glycerol.

**Reagents Supplied with Enzyme:**  
10X Lambda Exonuclease Reaction Buffer.

**Reaction Conditions:**  
1X Lambda Exonuclease Reaction Buffer.  
Incubate at 37°C.

**1X Lambda Exonuclease Reaction Buffer:**  
67 mM Glycine-KOH  
2.5 mM MgCl<sub>2</sub>  
50 µg/ml BSA  
(pH 9.4 @ 25°C)

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**Unit Definition:** One unit is defined as the amount of enzyme required to produce 10 nmol of acid soluble deoxyribonucleotide from double-stranded substrate in a total reaction volume of 50 µl in 30 minutes at 37°C.

**Unit Assay Conditions:** 67 mM Glycine-KOH (pH 9.4), 2.5 mM MgCl<sub>2</sub>, 50 µg/ml BSA and 1 µg sonicated duplex <sup>3</sup>H DNA.

**Heat Inactivation:** 75°C for 10 minutes.

### Quality Control Assays

**Endonuclease Activity:** Incubation of 200 units of Lambda Exonuclease with 1 µg φX174 RF I DNA for 4 hours at 37°C in 50 µl reaction buffer resulted in < 10% conversion to RF II.

**Quality Assurance:** Purified free of contaminating endonucleases and exonucleases.

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**Note:** 5'-OH ends are digested 20X slower than 5'-PO<sub>4</sub> ends. Single-strand is digested 100X slower than double-strand DNA (1).

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1. Little, J.W. (1981) *Gene Amplification and Analysis 2*, 135-145.



CERTIFICATE OF ANALYSIS

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