Lambda Exonuclease

1-800-632-7799
info@neb.com
www.neb.com

M0262S 008151217121

M0262S

RR Yes

1,000 units **5,000 U/ml** **Lot: 0081512**

RECOMBINANT **Store at –20°C** **Exp: 12/17**

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).

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 $MgCl_2$
50 µg/ml BSA
(pH 9.4 @ 25°C)

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 $MgCl_2$, 50 µg/ml BSA and 1µg sonicated duplex ^3H 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.

Note: 5´-OH ends are digested 20X slower than 5´-PO_4 ends. Single-strand is digested 100X slower than double-strand DNA (1).

Reference:

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

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CERTIFICATE OF ANALYSIS