Lambda Exonuclease

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

M0262S 008150117011

M0262S

1,000 units **5,000 U/ml** **Lot: 0081501**

RECOMBINANT **Store at –20°C** **Exp: 1/17**

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.

CERTIFICATE OF ANALYSIS

Lambda Exonuclease

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

M0262S 008150117011

M0262S

1,000 units 5,000 U/ml Lot: 0081501

RECOMBINANT Store at –20°C Exp: 1/17

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 MgCl2
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 MgCl2, 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´-PO4 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.

CERTIFICATE OF ANALYSIS