Intact Genomics®

Lambda Exonuclease

Catalog #:	Package Size	Concentration
3614	1, 000 units (200 µl)	5 units/µl
3616	5, 000 units (1 ml)	5 units/µl

Description

The Red system of bacteriophage λ consists of three genes (redα, redβ and redγ) that promote DNA recombination initiated at dsDNA breaks or at the overlapping ends of the linear λ chromosome (1). The exo gene (redα) encodes λ exonuclease with a highly processive 5′→3′ exonuclease that selectively digests the 5′-phosphorylated blunt-ended dsDNA. It also degrades single-stranded and non-phosphorylated substrates at a greatly reduced rate and unable to initiate DNA digestion at nicks or gaps (2, 3).

Applications

- Producing single-stranded DNA from double-stranded DNA fragments
- Analysis of DNA single-strand conformation polymorphism (SSCP) (4)
- Rolling circle amplification (RCA)
- Cloning of PCR products

Quality Control

Quality control is performed following the production of each new lot of product to ensure that it meets the quality standards and specifications designated for the product. Each lot is repeatedly compared side-by-side with leading competitors to ensure our products outperform the competitor before product launching.

Lambda exonuclease is free from detectable endonuclease and RNase activities.

Protein Purity

The physical purity of this enzyme is ≥95% as assessed by SDS-PAGE with Coomassie® blue staining (see figure below).

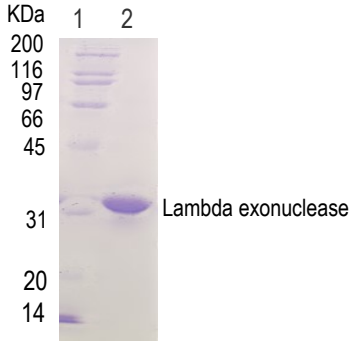

Fig: Lane 1, Protein marker
Lane 2, Lambda exonuclease

Source

E. coli cells carrying *λ redα* gene.

Contents & Storage

- Lambda exonuclease
- 10x Lambda exonuclease reaction buffer

Store all contents at -20 °C.

10x Lambda exonuclease reaction buffer

670 mM Glycine-KOH
25 mM MgCl2
500 µg/ml BSA
pH 9.4 @ 25°C.

Storage Buffer

50 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM β-mercaptoethanol, 1 mM DTT and 50% (v/v) glycerol.

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 37°C under standard assay conditions.

Inactivation

Inactivated by heating at 70°C for 20 min.

References

1. Poteete AR. FEMS Microbiol Lett 2001; 201:9 -14.
2. Little, J.W. (1981). Gene Ampli. Anal. 2, 135-145.
3. Mitsis, P.G. and Kwagh, J.G. (1999) Nucleic Acids Res. 27, 3057-3063.
4. Schwieger, F. and Tebbe, C.C. (1998) Appl. Environ. Microbiol. 64, 4870-4876.

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