



Lucigen
Reagent Components

Rec J Exonuclease

Manual



Rec J Exonuclease is part of the Epicentre™ product line, known for its unique genomics kits, enzymes, and reagents which offer high quality and reliable performance.



**Diagnostics
& Genomics**

Rec J Exonuclease

1. Introduction

Rec J Exonuclease, derived from *E. coli*, catalyses removal of deoxyribonucleotide monophosphates from single stranded DNA (ssDNA) in a 5' → 3' direction. The enzyme requires magnesium (Mg^{2+}) and can be heat inactivated by incubation at 65 °C for 20 minutes.

2. Product designations and kit components

Product	Kit size	Catalogue number	Reagent description	Part number	Volume
Rec J Exonuclease	250 units	RJ411250	Rec J Exonuclease (10 units/ μ L)	E0059-10D1	25 μ L
			10X Rec J Exonuclease Buffer	SS000272-D3	250 μ L

3. Product specifications

Storage: Store only at -65 °C to -85 °C in a freezer without a defrost cycle.

Storage buffer: Rec J Exonuclease is supplied in a 50% glycerol solution containing 50 mM Tris-HCl (pH 7.5), 100 mM NaCl, 1.0 mM dithiothreitol (DTT), 0.1 mM EDTA and 0.1% Triton® X-100 (Rohm & Haas).

Unit definition: One unit of Rec J Exonuclease results in the acid-solubilisation of 0.05 nmol of nucleotides from activated single-stranded calf thymus DNA in 30 minutes at 37 °C.

10X Rec J Exonuclease Reaction Buffer: 330 mM Tris-acetate (pH 7.5), 660 mM potassium acetate, 100 mM magnesium acetate and 5 mM DTT.

Quality control: Rec J Exonuclease is function-tested in a reaction containing 33 mM Tris-acetate (pH 7.5), 66 mM potassium acetate, 10 mM magnesium acetate, 0.5 mM DTT, 10 μ g of heat-denatured activated calf thymus DNA and varying amounts of Rec J Exonuclease.

Contaminating activity assays: Rec J Exonuclease is free of detectable RNase, DNA endonuclease, and dsDNA exonuclease activities.

4. Applications

- Removal of primers from completed PCR reactions.
- Degradation of linear ssDNA in double-stranded DNA (dsDNA) and plasmid preps.

5. Suggested reaction setup

- X μ L DNA (up to 3 μ g)
- 5 μ L 10X Rec J Exonuclease Buffer
- X μ L Nuclease-free water (Bring volume to 49 μ L)
- 1 μ L (10 Units) Rec J Exonuclease

6. Guidance of use

To ensure optimal performance, follow these instructions when using the enzyme:

Temperature: Incubate at 37 °C.

Duration: Allow the reaction to proceed for 30 to 60 minutes, depending on your specific application requirements.

Further details can be found in the referenced publication (section 6).

7. Reference

Han ES, Cooper DL, Persky NS, Sutera VA Jr, Whitaker RD, Montello ML, Lovett ST. RecJ exonuclease: substrates, products and interaction with SSB. *Nucleic Acids Res.* 2006 Feb 18;34(4):1084-91. doi: 10.1093/nar/gkj503. PMID: 16488881; PMCID: PMC1373692.

8. Further support

If you require any further support, please do not hesitate to contact our Technical Support Team:

techsupport@lgcgroup.com

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