PRODUCT INFORMATION

Exonuclease V (RecBCD)

v. 261001

Catalog number	C15058-5000U / C15058-10000U
Package & Component	See table below

Package	Name	Amount
5000 U	Exonuclease V (RecBCD) (20 U/μL)	250 μL (1 vial)
	10X Reaction buffer	1 mL (1 vial)
	10 mM ATP	1 mL (1 vial)
5000 U x 2	Exonuclease V (RecBCD) (20 U/μL)	250 μL (2 vial)
	10X Reaction buffer	1 mL (2 vial)
	10 mM ATP	1 mL (2 vial)

Description	Exonuclease V (RecBCD) is a highly processive, ATP-dependent recombinant enzyme complex from Escherichia coli that possesses dual helicase and exonuclease activities. Driven by ATP hydrolysis, it rapidly degrades linear single- and double-stranded DNA from both 5' and 3' termini into short, acid-soluble oligonucleotides. With strict specificity for free ends, the enzyme degrades linear DNA while generally preserving nicked and supercoiled plasmid DNA. This unique substrate discrimination makes Exonuclease V an essential tool for eliminating contaminating linear genomic DNA to yield high-purity circular DNA for sensitive downstream applications.
Source	*Escherichia coli*
Concentration	20 U/μL
Form	Liquid
Purity	>95% as determined by SDS-PAGE analysis.
Endotoxin Level	<0.1 EU per 1 μg of the protein by the LAL method.
Unit Definition	One unit of Exonuclease V digests 0.33 μg of linear double-stranded DNA into acid-soluble nucleotides in 30 minutes at 37°C under standard assay conditions.
Storage Buffer	The enzyme is supplied in 50 mM Tris-HCl, 100 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.1% Triton X-100, 50% glycerol, pH 7.5.
Storage	This product is stable at -20°C for 12 months under sterile conditions. Avoid repeated freeze-thaw cycles.
Procedure	1. Prepare a reaction according to the table below:

Components	Amount
DNA	2 µg
10X Reaction buffer	2 µL
10 mM ATP	2 µL
Exonuclease V	1 µL
Sterile nuclease-free water	To 20 µL

Note:

(1) Mix gently and spin down briefly prior to incubation.

(2) If the DNA volume exceeds the reaction limit due to low concentration, scale up all components proportionally.

2. Incubate the reaction mixture at 37°C for 30 minutes.
3. Stop the reaction by adding EDTA to a final concentration of 25 mM (e.g. add 1 µL of 0.5 M EDTA (pH 8.0) to the 20 µL reaction mixture) or inactivate the enzyme by heating at 70°C for 30 minutes.
4. Analyze the extent of sample digestion using electrophoresis.

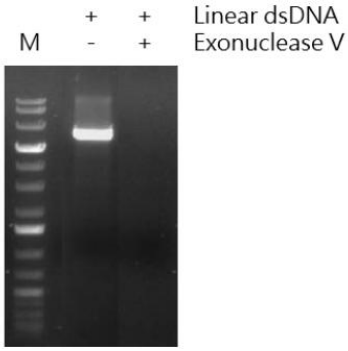

Figure. Agarose gel electrophoresis of DNA digested with Exonuclease V. The standard assay was performed by incubating 1 unit of Exonuclease V and 0.33 µg of linear dsDNA at 37°C for 30 minutes.

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