A&A BIOTECHNOLOGY
innovating life science

Manual

Exonuclease V (RecBCD)

Recombinant enzyme that cleaves linear single-stranded and double-stranded DNA in both 3' to 5' and 5' to 3' directions. Concentration 10 U/µl.

catalog #	size
1036-1000	1000 U
1036-5000	5000 U

For research use only.

Guarantee

A&A Biotechnology provides guarantee on this product.
The company does not guarantee correct performance of this kit in the event of:

- not adhering to the supplied protocol
- use of not recommended equipment or materials
- use of other reagents than recommended or which are not a component of the product
- use of expired or improperly stored product or its components

Advantages

- DNA specific exonuclease that has ssDNA and dsDNA exonuclease activity and ATP-dependent ssDNA endonuclease activity.
- Cleaves ssDNA and dsDNA in both 3' to 5' and 5' to 3' directions.
- Degrades linear ssDNA and dsDNA leaving intact supercoiled and circular dsDNA.

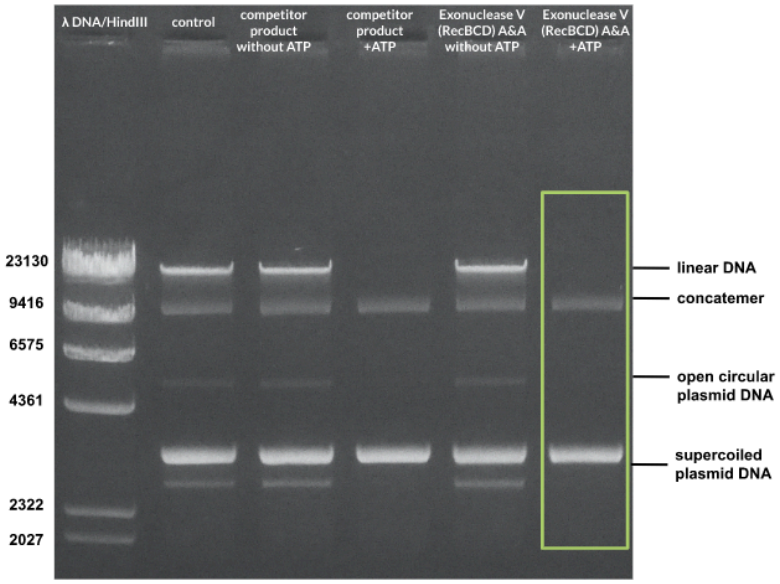

Fig. 1 The picture shows the degradation of linear DNA by Exonuclease V (RecBCD) A&A compared to a competitor enzyme.

Description

Exonuclease V is a complex of recombinant RecB, RecC and RecD proteins from *E. coli*. Enzyme has a helicase and nuclease activity. In the presence of ATP catalyzes exonucleolytic cleavage in both 3' to 5' and 5' to 3' directions to yield 5' phosphooligonucleotides.

Application

- Removal of residual fragmented genomic DNA after purification of low copy plasmid.
- Removal of genomic DNA during purification of mitochondrial and chloroplast DNA.
- Removal of linear DNA contamination from plasmid samples.

Unit definition

One unit is defined as the amount of enzyme required to produce 1 nmol of acid soluble deoxyribonucleotide from double-stranded DNA in 30 minutes at 37 °C in a total reaction volume of 30 µl.

Contents

	1036-1000		1036-5000		
	quantity	**catalog #**	**quantity**	**catalog #**	**storage**
Exonuclease V storage buffer: 100 mM MOPS pH 7.4, 2 mM $MgCl_2$, 1 mM DTT, 0.01 mM EDTA, 50% glycerol	1000 U	K-EXV-1000	2 x 2500 U	K-EXV-2500	-20 °C
ExoV reaction buffer 10x ExoV reaction buffer: 500 mM CH_3COOK, 200 mM Tris-acetate pH 7.9, 100 mM $(CH_3COO)_2Mg$, 10 mM DTT	200 µl	K-BEXV-200B	5 x 200 µl	K-BEXV-200B	-20 °C
10 mM ATP	200 µl	K-ATP-200B	5 x 200 µl	K-ATP-200B	-20 °C
ultrapure water	8 ml	K-WUP-8	40 ml	K-WUP-40	-20–25 °C

Important note

DNA treated with Exonuclease V must be free of **EDTA** and **$CaCl_2$**. We recommend suspending the material in water or Tris buffer.

Protocol

1. Thaw and mix all components and add:

component	reaction volume **30 µl**
DNA sample	up to 1 µl
Exonuclease V	1 µl
ExoV reaction buffer	3 µl
ATP (10 mM)	3 µl
ultrapure water	up to 30 µl

3. Incubate for **30 min** at **37 °C**.

4. Enzyme inactivation: add EDTA to 11mM or incubate for **30 min** at **70 °C**.

5. Clean-up treated samples using the Clean-Up Concentrator cat # 021-50C and/or perform ethanol precipitation.

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