Data sheet

JENA BIOSCIENCE

Exonuclease III, *E. coli*, Recombinant, *E. coli*

Cat.-No.	Size	Conc.
EN-157S	30,000 U	200 U/µl
EN-157L	150,000 U	200 U/µl

Liquid. Supplied in 50 mM Tris-HCl (pH 7.5), 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 0.1% Triton X-100, 50% glycerol.

Exonuclease III (ExoIII) of *E. coli* is a 31 kD monomeric, globular protein combining multiple catalytic activities in one active site. It acts on double-stranded (ds) DNA as a 3'-5' exonuclease, a 3'-phosphomonoesterase, an apurinic/apyrimidimic (AP) sites specific endonuclease and an exonucleolytic ribonuclease H. Of particular interest for molecular biological methods is its exonucleolytic activity, removing 5'-mononucleotides from the 3'-hydroxyl ends of ds DNA, leaving protruding 5'-termini. Its catalytic rate can be adjusted by temperature and NaCl concentration and thus allows for the generation of single-stranded DNA templates for sequencing or recombination methods.

Applications:

- Construction of nested unidirectional deletions of DNA fragments in combination with nuclease S1
- Generation of a single-stranded template for dideoxy sequencing of DNA
- Site-directed mutagenesis
- Cloning of PCR products
- *in vitro* Rekombination

AVOID FREEZE/THAW CYCLES.

For in vitro use only!

Purity: > 95% by SDS-PAGE.

Unit definition: One unit of Exonuclease III catalyzes the release of 1 nmole of acid-soluble nucleotides from double stranded calf thymus DNA in 30 minutes at 37 °C in 33 mM Tris-acetate (pH 7.8), 66 mM potassium acetate, 10 mM magnesium acetate and 0.5 mM DTT.

Store: -20 °C

Selected references:

Henikoff S. (1984) Unidirectional digestion with exonuclease III creates targeted breakpoints for DNA sequencing. *Gene* **28**:351.

Guo L.H. and Wu R. (1082) New rapid methods for DNA sequencing based on exonuclease III digestion followed by repair synthesis. *Nucleic Acids Res.* **10**:2065.

Vandeyar et al. (1988) A simple and rapid method for the selection of oligodeoxynucleotide-directed mutants. *Gene* **65**:129.

Li C. and Evans R.M. (1997) Ligation independent cloning irrespective of restriction site compatibility. *Nucleic Acids Res.* **25**:4165.