Exonuclease I (E. coli)

3,000 units 20,000 U/ml Lot: 0181403
RECOMBINANT Store at −20°C Exp: 3/16

Description: Catalyzes the removal of nucleotides from single-stranded DNA in the 3′ to 5′ direction.

Source: An E. coli strain that carries the cloned Exo I gene from E. coli NM554

Applications:
- Exonuclease I degrades excess single-stranded DNA from a reaction mixture containing double-stranded extension products.

Unit Assay Conditions: 67 mM Glycine-KOH (pH 9.5), 6.7 mM MgCl₂, 10 mM 2-mercaptoethanol, and 0.17 mg/ml single-stranded [³H]-DNA.

Heat Inactivation: 80°C for 20 minutes.

Quality Control Assays

Double-stranded Endonuclease: Incubation of 100 units of Exonuclease I with 1 µg φX174 RF I DNA for 16 hours at 37°C in 50 µl reaction buffer resulted in < 5% conversion to RF II.

Single-stranded Endonuclease: Incubation of 100 units of Exonuclease I with 1 µg M13mp18 single-stranded DNA for 16 hours at 37°C in a 50 µl reaction resulted in no decrease in the amount of closed circular DNA as determined by agarose gel electrophoresis.

Physical Purity: Purified to > 95% homogeneity as determined by SDS-PAGE analysis using Coomassie Blue detection. BSA is added to the enzyme for stability.

References:
1. Lehman and Nussbaum (1964) J. Biol. Chem. 239, 2628.