

New England Biolabs Certificate of Analysis

Product Name: Exonuclease I (E.coli)
Catalog Number: M0293S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will catalyze the release of 10 nmol of acid-soluble nucleotide in a total reaction volume of 100 µl in 30 minutes at 37°C in 1X Exonuclease I Reaction Buffer with 0.17 mg/ml single-stranded [³H]-DNA.
Packaging Lot Number: 10213755
Expiration Date: 04/2025
Storage Temperature: -20°C
Storage Conditions: 100 mM NaCl, 10 mM Tris-HCl, 0.5 mM EDTA, 5 mM BME, 50 % Glycerol, 100 µg/ml BSA, (pH 7.5 @ 25°C)
Specification Version: PS-M0293S/L v1.0

Exonuclease I (E.coli) Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0293SVIAL	Exonuclease I (E.coli)	10183142	Pass
B0293SVIAL	Exonuclease I Reaction Buffer	10181126	Pass

Assay Name/Specification	Lot # 10213755
<p>Endonuclease Activity (Circular Single Stranded DNA) A 50 µl reaction in Exonuclease I Reaction Buffer containing 1 µg of M13mp18 Single-stranded DNA and a minimum of 100 units of Exonuclease I (E. coli) incubated for 16 hours at 37°C results in <10% conversion to linear DNA as determined by agarose gel electrophoresis.</p>	Pass
<p>Endonuclease Activity (Nicking) A 50 µl reaction in Exonuclease I Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of Exonuclease I (E. coli) incubated for 16 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release, Double Stranded) A 50 µl in Exonuclease I Reaction Buffer containing 0.2 µg [³H] CpG methylated Lambda DNA and a minimum of 50 units of Exonuclease I (E. coli) incubated for 4 hours at 37°C releases <0.5% of the total radioactivity.</p>	Pass

Assay Name/Specification	Lot # 10213755
<p>Protein Purity Assay (SDS-PAGE) Exonuclease I (E. coli) is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>RNase Activity (Extended Digestion) A 10 µL reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Exonuclease I (E. coli) is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 20 units of Exonuclease I (E. coli) is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.</p>	Pass

This product has been tested and shown to be in compliance with all specifications.

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Penghua Zhang
Production Scientist
04 Apr 2023



Josh Hersey
Packaging Quality Control Inspector
29 Nov 2023