

New England Biolabs Certificate of Analysis

Product Name: *Thermolabile Exonuclease I*
Catalog Number: M0568L
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will catalyze the release of 2 nmol of acid-soluble nucleotide in a total reaction volume of 100 µl in 6 minutes at 37°C in NEBuffer 3.1 with 0.17 mg/ml single-stranded [³H]-E.coli DNA.
Packaging Lot Number: 10173715
Expiration Date: 12/2024
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 250 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA, 50% Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M0568S/L v1.0

Thermolabile Exonuclease I Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0568LVIAL	Thermolabile Exonuclease I	10173714	Pass
B6003SVIAL	NEBuffer™ r3.1	10168652	Pass

Assay Name/Specification	Lot # 10173715
<p>RNase Activity Assay (4 Hour 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 Thermolabile Exonuclease I is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass
<p>Functional Testing (Thermolability) A 20 µl reaction in Standard Taq Reaction Buffer containing 20 pmol of 20-mer ssDNA and 20 units of Thermolabile Exonuclease I was incubated for 4 minutes at 37°C followed by heat inactivation for 1 minute at 80°C. The addition of 20 pmol of 20-mer ssDNA and incubation for 40 minutes at 37°C results in no cleavage of additional substrate as determined by capillary electrophoresis.</p>	Pass
<p>Endonuclease Activity (Circular Single Stranded DNA) A 50 µl reaction in CutSmart® Buffer containing 1 µg of M13 single-stranded DNA and a minimum of 100 units of Thermolabile Exonuclease I incubated for 4 hours at 37°C results in <10% conversion to linear DNA as determined by agarose gel</p>	Pass

Assay Name/Specification	Lot # 10173715
<p>electrophoresis.</p> <p>qPCR DNA Contamination (E. coli Genomic) A minimum of 20 units of Thermolabile Exonuclease I 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
<p>Protein Purity Assay (SDS-PAGE) Thermolabile Exonuclease I is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>Endonuclease Activity (Nicking) A 50 μl reaction in CutSmart® Buffer containing 1 μg of supercoiled PhiX174 DNA and a minimum of 100 units of Thermolabile Exonuclease I incubated for 4 hours at 37°C results in $<10\%$ conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 μl reaction in CutSmart® Buffer containing 1 μg of PhiX174-HaeIII DNA and a minimum of 100 units of Thermolabile Exonuclease I incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.



Penghua Zhang
Production Scientist
19 Jan 2023



Michael Tonello
Packaging Quality Control Inspector
19 Jan 2023