

## New England Biolabs Certificate of Analysis

**Product Name:** *Exonuclease I (E. coli)*  
**Catalog #:** M0293S/L  
**Concentration:** 20,000 units/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 [<sup>3</sup>H]-DNA.  
**Lot #:** 0241708  
**Assay Date:** 08/2017  
**Expiration Date:** 08/2019  
**Storage Temp:** -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  
**Effective Date:** 05 Apr 2017

Assay Name/Specification (minimum release criteria)	Lot #0241708
<b>Endonuclease Activity (Circular Single Stranded DNA)</b> - 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 ( <i>E. coli</i> ) incubated for 16 hours at 37°C results in <10% conversion to linear DNA as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Endonuclease Activity (Nicking)</b> - 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 ( <i>E. coli</i> ) incubated for 16 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release, Double Stranded)</b> - A 50 µl in Exonuclease I Reaction Buffer containing 0.2 µg [ <sup>3</sup> H] CpG methylated Lambda DNA and a minimum of 50 units of Exonuclease I ( <i>E. coli</i> ) incubated for 4 hours at 37°C releases <0.5% of the total radioactivity.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - Exonuclease I ( <i>E. coli</i> ) is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<b>qPCR DNA Contamination (<i>E. coli</i> Genomic)</b> - A minimum of 20 units of Exonuclease I ( <i>E. coli</i> ) is screened for the presence of <i>E. coli</i> genomic DNA using SYBR® Green qPCR with primers specific for the <i>E. coli</i> 16S rRNA locus. Results are quantified using a standard curve generated from purified <i>E. coli</i> genomic DNA. The measured level of <i>E. coli</i> genomic DNA contamination is ≤ 1 <i>E. coli</i> genome.	<b>Pass</b>

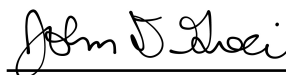
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<b>Assay Name/Specification</b> (minimum release criteria)	<b>Lot #0241708</b>
<b>RNase Activity (Extended Digestion)</b> - A 10 µL reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Exonuclease I ( <i>E. coli</i> ) 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.	<b>Pass</b>

\* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.



Authorized by  
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05 Apr 2017



Inspected by  
John Greci  
25 Aug 2017

