

## New England Biolabs Certificate of Analysis

*Product Name:* Exonuclease VII  
*Catalog #:* M0379S/L  
*Concentration:* 10,000 units/ml  
*Unit Definition:* One unit is defined as the amount of enzyme that will catalyze the release of 1 nmol of acid-soluble nucleotide in a total reaction volume of 50 µl in 30 minutes at 37°C.  
*Lot #:* 0031804  
*Assay Date:* 04/2018  
*Expiration Date:* 04/2020  
*Storage Temp:* -20°C  
*Storage Conditions:* 100 mM NaCl, 50 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 0.1 % Triton®X-100, (pH 7.5 @ 25°C)  
*Specification Version:* PS-M0379S/L v1.0  
*Effective Date:* 08 May 2018

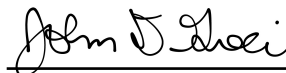
Assay Name/Specification (minimum release criteria)	Lot #0031804
<b>Endonuclease Activity (Circular Single Stranded DNA)</b> - A 50 µl reaction in NEBuffer 4 containing 1 µg of M13 single-stranded DNA and a minimum of 10 units of Exonuclease VII incubated for 1 hour at 37°C results in <20% conversion to linear DNA as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Endonuclease Activity (Nicking)</b> - A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 units of Exonuclease VII incubated for 4 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 reaction in NEBuffer 4 containing 1 µg double stranded [ <sup>3</sup> H] <i>E. coli</i> DNA and a minimum of 10 units of Exonuclease VII incubated for 4 hours at 37°C releases <0.5% of the total radioactivity.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> - A 50 µl reaction in NEBuffer 4 containing 1 µg of HaeIII digested PhiX174 RF I DNA and a minimum of 10 units of Exonuclease VII incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - Exonuclease VII 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 10 units of Exonuclease VII 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 #0031804</b>
<b>RNase Activity Assay (4 Hour Digestion)</b> - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 10 units of Exonuclease VII 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.	<b>Pass</b>



Authorized by  
Derek Robinson  
08 May 2018



Inspected by  
John Greci  
27 Apr 2018

