

New England Biolabs Certificate of Analysis

Product Name: Exonuclease VII
Catalog Number: M0379L
Concentration: 10,000 U/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.
Packaging Lot Number: 10256389
Expiration Date: 04/2026
Storage Temperature: -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

Exonuclease VII Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0379LVIAL	Exonuclease VII	10222509	Pass
B0379SVIAL	Exonuclease VII Reaction Buffer	10221171	Pass

Assay Name/Specification	Lot # 10256389
<p>Endonuclease Activity (Circular Single Stranded DNA) 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.</p>	Pass
<p>Endonuclease Activity (Nicking) 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.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release, Double Stranded) A 50 µl reaction in NEBuffer 4 containing 1 µg double stranded [³H] E. coli DNA and a minimum of 10 units of Exonuclease VII incubated for 4 hours at 37°C releases <0.5% of the total radioactivity.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) 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</p>	Pass

Assay Name/Specification	Lot # 10256389
<p>in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	
<p>Protein Purity Assay (SDS-PAGE) Exonuclease VII is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<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 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.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of Exonuclease VII 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.

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.



Heidi Church
Production Scientist
17 Apr 2024



Josh Hersey
Packaging Quality Control Inspector
26 Aug 2024