240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
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www.neb.com
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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:	*10222408*
Expiration Date:	*04/2025*
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	10184024	**Pass**
B0379SVIAL	Exonuclease VII Reaction Buffer	10221171	**Pass**

Assay Name/Specification	**Lot # 10222408**
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 37ºC results in <20% conversion to linear DNA as determined by agarose gel electrophoresis.	**Pass**
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.	**Pass**
Exonuclease Activity (Radioactivity Release, Double Stranded) A 50 µl reaction in NEBuffer 4 containing 1 µg double stranded [^{3}H] E. coli DNA and a minimum of 10 units of Exonuclease VII incubated for 4 hours at 37ºC releases <0.5% of the total radioactivity.	**Pass**
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 37ºC results	**Pass**

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Assay Name/Specification	Lot # 10222408
in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	
Protein Purity Assay (SDS-PAGE) Exonuclease VII is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
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.	**Pass**
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.	**Pass**

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

Penghua Zhang
Production Scientist
07 Apr 2023

Michael Tonello
Packaging Quality Control Inspector
03 Apr 2024