

## New England Biolabs Certificate of Analysis

**Product Name:** RNase 4  
**Catalog Number:** M1284S  
**Concentration:** 50,000 U/ml  
**Unit Definition:** One unit of RNase 4 is defined as the amount of enzyme required to cleave 1.8 pmol of a 45-mer RNA substrate containing a single U/A cut site in 60 minutes at 25°C.  
**Packaging Lot Number:** 10272723  
**Expiration Date:** 11/2026  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM Sodium Acetate, 100 mM Sodium Chloride, 200 µg/ml rAlbumin, 50% Glycerol (pH 6.0 @ 25°C)  
**Specification Version:** PS-M1284S v1.0

RNase 4 Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M1284SVIAL	RNase 4	10266141	Pass
B6001SVIAL	NEBuffer™ r1.1	10241732	Pass

Assay Name/Specification	Lot # 10272723
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in NEBuffer™ r1.1 containing 1 µg of supercoiled PhiX174 RF I DNA and a minimum of 50 units of RNase 4 incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in NEBuffer™ r1.1 containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 50 units of RNase 4 incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in NEBuffer™ r1.1 containing 1 µg of PhiX174-HaeIII DNA and a minimum of 50 units of RNase 4 incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Phosphatase Activity (pNPP)</b> A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl <sub>2</sub> containing 2.5 mM	Pass

Assay Name/Specification	Lot # 10272723
<p>p-Nitrophenyl Phosphate (pNPP) and a minimum of 50 units of RNase 4 incubated for 16 hours at 37°C yields &lt;0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	
<p><b>Protein Purity (Microfluidic Electrophoresis)</b> RNase 4 is ≥95% pure as determined by microfluidic electrophoresis.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 50 units of RNase 4 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>	<b>Pass</b>

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

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Production Scientist  
18 Dec 2024



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Packaging Quality Control Inspector  
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