

## New England Biolabs Certificate of Analysis

**Product Name:** RNase H  
**Catalog Number:** M0297L  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to produce 1 nmol of ribonucleotides from 20 picomoles of a fluorescently labeled 50 base pair RNA-DNA hybrid in a total reaction volume of 50 µl in 20 minutes at 37°C.  
**Packaging Lot Number:** 10094808  
**Expiration Date:** 10/2022  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl , 50 mM KCl , 1 mM DTT , 0.1 mM EDTA , 200 µg/ml BSA , 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0297S/L v1.0

RNase H Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0297LVIAL	RNase H	10081855	Pass
B0297SVIAL	RNase H Reaction Buffer	10085445	Pass

Assay Name/Specification	Lot # 10094808
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in RNase H Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of RNase H 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, Single Stranded)</b> A 50 µl reaction in RNase H Reaction Buffer containing 1 µg of single stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 50 units of RNase H incubated for 30 minutes at 37°C releases <0.1 of the total radioactivity.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> RNase H is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 5 units of RNase H 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	Pass

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<p>are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is <math>\leq 1</math> E. coli genome.</p> <p><b>RNase Activity (Extended Digestion)</b> A 10 <math>\mu</math>l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 <math>\mu</math>l of RNase H is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<p><b>Pass</b></p>

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

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Timothy Meixsell  
Production Scientist  
18 Jan 2021



Josh Hersey  
Packaging Quality Control Inspector  
18 Jan 2021