

## 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:** 10139019  
**Expiration Date:** 10/2023  
**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	10123428	Pass
B0297SVIAL	RNase H Reaction Buffer	10111600	Pass

Assay Name/Specification	Lot # 10139019
<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 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
<b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of RNase H is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass
<b>Exonuclease Activity (Radioactivity Release, Single Stranded)</b>	Pass

Assay Name/Specification	Lot # 10139019
<p>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 &lt;0.1 of the total radioactivity.</p> <p><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 &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<p><b>Pass</b></p>

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

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Production Scientist  
16 Feb 2022



Josh Hersey  
Packaging Quality Control Inspector  
16 Feb 2022