

## New England Biolabs Certificate of Analysis

**Product Name:** *Thermostable RNase H*  
**Catalog Number:** *M0523S*  
**Concentration:** *5,000 U/ml*  
**Unit Definition:** *One unit is defined as the amount of enzyme required to produce 1 nmol of ribonucleotides from 40 picomoles of a fluorescently labeled 25 base pair RNA-DNA hybrid in a total reaction volume of 50 µl in 20 minutes at 50°C.*  
**Lot Number:** *10038848*  
**Expiration Date:** *01/2021*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *50 mM Tris-HCl, 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 0.1% Triton®X-100, 50% Glycerol (pH 7.5 @ 25°C)*  
**Specification Version:** *PS-M0523S v1.0*

Thermostable RNase H Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0523SVIAL	Thermostable RNase H	10038806	Pass
B0297SVIAL	RNase H Reaction Buffer	10028969	Pass

Assay Name/Specification	Lot # 10038848
<p><b>Protein Purity Assay (SDS-PAGE)</b> Thermostable RNase H is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 5 units of Thermostable 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.</p>	Pass
<p><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 5 units of Thermostable RNase H is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass

Assay Name/Specification	Lot # 10038848
<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 25 units of Thermostable 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>	<b>Pass</b>
<p><b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in RNase H Reaction Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 25 units of Thermostable RNase H incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>

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



Timothy Meixsell  
Production Scientist  
28 Feb 2019



Michael Tonello  
Packaging Quality Control Inspector  
28 Feb 2019