

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.*
Packaging Lot Number: *10223001*
Expiration Date: *12/2025*
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	10217806	Pass
B0297SVIAL	RNase H Reaction Buffer	10218041	Pass

Assay Name/Specification	Lot # 10223001
Endonuclease Activity (Nicking) 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 <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in RNase H Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 25 units of Thermostable RNase H incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Protein Purity Assay (SDS-PAGE) Thermostable RNase H is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA	Pass

Assay Name/Specification	Lot # 10223001
<p>and a minimum of 5 units of Thermostable RNase H 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.</p> <p>qPCR DNA Contamination (E. coli Genomic) 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>	<p>Pass</p>

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.



Bo Wu
Production Scientist
08 Dec 2023



Michael Tonello
Packaging Quality Control Inspector
19 Dec 2023