

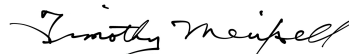
New England Biolabs Certificate of Analysis

Product Name: *Thermostable RNase H*
Catalog #: *M0523S*
Concentration: *5,000 units/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 #: *0031802*
Assay Date: *02/2018*
Expiration Date: *02/2020*
Storage Temp: *-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*
Effective Date: *29 Jan 2018*

Assay Name/Specification (minimum release criteria)	Lot #0031802
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] <i>E. coli</i> 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
qPCR DNA Contamination (E. coli Genomic) - A minimum of 5 units of Thermostable RNase H is screened for the presence of <i>E. coli</i> genomic DNA using SYBR® Green qPCR with primers specific for the <i>E. coli</i> 16S rRNA locus. Results are quantified using a standard curve generated from purified <i>E. coli</i> genomic DNA. The measured level of <i>E. coli</i> genomic DNA contamination is ≤ 1 <i>E. coli</i> genome.	Pass
RNase Activity (Extended Digestion) - 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, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass



Authorized by
Derek Robinson
29 Jan 2018



Inspected by
Timothy Meixsell
07 Feb 2018

