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

<table>
<thead>
<tr>
<th>Assay Name/Specification (minimum release criteria)</th>
<th>Lot #0031802</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Endonuclease Activity (Nicking)</strong> - 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.</td>
<td>Pass</td>
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<tr>
<td><strong>Exonuclease Activity (Radioactivity Release)</strong> - A 50 μl reaction in RNase H Reaction Buffer containing 1 μg of a mixture of single and double-stranded [³H] 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.</td>
<td>Pass</td>
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<tr>
<td><strong>Protein Purity Assay (SDS-PAGE)</strong> - Thermostable RNase H is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</td>
<td>Pass</td>
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<tr>
<td><strong>qPCR DNA Contamination (E. coli Genomic)</strong> - 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.</td>
<td>Pass</td>
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<tr>
<td><strong>RNase Activity (Extended Digestion)</strong> - 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.</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Authorized by
Derek Robinson
29 Jan 2018

Inspected by
Timothy Meixsell
07 Feb 2018