Endonuclease Activity (Nicking) - A 50 µl reaction in ProtoScript® II Reverse Transcriptase Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 200 units of ProtoScript® II Reverse Transcriptase 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 ProtoScript® II Reverse Transcriptase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 200 units of ProtoScript® II Reverse Transcriptase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Pass

Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 200 units of ProtoScript® II Reverse Transcriptase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Pass

Protein Purity Assay (SDS-PAGE) - ProtoScript® II Reverse Transcriptase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

Pass
<table>
<thead>
<tr>
<th>Assay Name/Specification (minimum release criteria)</th>
<th>Lot #0041507</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>qPCR DNA Contamination (E. coli Genomic)</strong> - A minimum of 200 units of ProtoScript® II Reverse Transcriptase is screened for the presence of <em>E. coli</em> genomic DNA using SYBR® Green qPCR with primers specific for the <em>E. coli</em> 16S rRNA locus. Results are quantified using a standard curve generated from purified <em>E. coli</em> genomic DNA. The measured level of <em>E. coli</em> genomic DNA contamination is $\leq 1$ <em>E. coli</em> genome.</td>
<td>Pass</td>
</tr>
<tr>
<td><strong>RNase Activity Assay (4 Hour Digestion)</strong> - A 10 µl reaction in ProtoScript® II Reverse Transcriptase Reaction Buffer containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of ProtoScript® II Reverse Transcriptase 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  
Denisa Gilaj  
22 Sep 2016

Inspected by  
Denisa Gilaj  
13 Jul 2015