

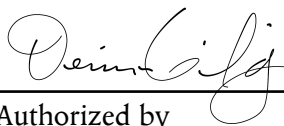
## New England Biolabs Certificate of Analysis

*Product Name:* ProtoScript<sup>®</sup> II Reverse Transcriptase  
*Catalog #:* M0368S/L/X  
*Concentration:* 200,000 units/ml  
*Unit Definition:* One unit is defined as the amount of enzyme that will incorporate 1 nmol of dTTP into an acid-insoluble form in 10 minutes at 37°C.  
*Lot #:* 0041703  
*Assay Date:* 03/2017  
*Expiration Date:* 3/2019  
*Storage Temp:* -20°C  
*Storage Conditions:* 20 mM Tris-HCl, 100 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.01 % IGEPAL<sup>®</sup> CA-630, 50 % Glycerol, (pH 7.5 @ 25°C)  
*Specification Version:* PS-M0368S/L/X v1.0  
*Effective Date:* 22 Sep 2016

Assay Name/Specification (minimum release criteria)	Lot #0041703
<b>Endonuclease Activity (Nicking)</b> - A 50 µl reaction in ProtoScript <sup>®</sup> II Reverse Transcriptase Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 200 units of ProtoScript <sup>®</sup> II Reverse Transcriptase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 µl reaction in ProtoScript <sup>®</sup> II Reverse Transcriptase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> DNA and a minimum of 200 units of ProtoScript <sup>®</sup> II Reverse Transcriptase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> - 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 <sup>®</sup> 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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - ProtoScript <sup>®</sup> II Reverse Transcriptase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>

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Assay Name/Specification (minimum release criteria)	Lot #0041703
<p><b>qPCR DNA Contamination (<i>E. coli</i> Genomic)</b> - A minimum of 200 units of ProtoScript® II Reverse Transcriptase 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 <math>\leq 1</math> <i>E. coli</i> genome.</p> <p><b>RNase Activity Assay (4 Hour Digestion)</b> - A 10 <math>\mu</math>l reaction in ProtoScript® II Reverse Transcriptase Reaction Buffer containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 <math>\mu</math>l 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.</p>	<p><b>Pass</b></p> <p><b>Pass</b></p>



Authorized by  
Denisa Gilaj  
22 Sep 2016



Inspected by  
Tony Spear-Alfonso  
21 Aug 2017

