

## New England Biolabs Certificate of Analysis

**Product Name:** WarmStart® RTx Reverse Transcriptase  
**Catalog Number:** M0380S  
**Concentration:** 15,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 1 nmol of dTTP into acid-insoluble material in 20 minutes at 50°C.  
**Lot Number:** 10018691  
**Expiration Date:** 08/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl , 100 mM KCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0380S/L v2.0

WarmStart® RTx Reverse Transcriptase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0380SVIAL	WarmStart® RTx Reverse Transcriptase	10018692	Pass
B1003SVIAL	Magnesium Sulfate (MgSO <sub>4</sub> ) Solution	0021701	Pass
B0537SVIAL	Isothermal Amplification Buffer	0031711	Pass

Assay Name/Specification	Lot # 10018691
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in Isothermal Amplification Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 15 units of RTx Reverse Transcriptase incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in Isothermal Amplification Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 15 units of RTx Reverse Transcriptase incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</p>	Pass
<p><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 15 units of WarmStart® RTx 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.</p>	Pass

Assay Name/Specification	Lot # 10018691
<p><b>Protein Purity Assay (SDS-PAGE)</b> RTx Reverse Transcriptase is <math>\geq 99\%</math> pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 15 units of WarmStart<sup>®</sup> RTx Reverse Transcriptase is screened for the presence of E. coli genomic DNA using SYBR<sup>®</sup> 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 <math>\leq 1</math> E. coli genome.</p>	<b>Pass</b>
<p><b>RNase Activity Assay (4 Hour Digestion)</b> A 10 <math>\mu</math>l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 <math>\mu</math>l of WarmStart<sup>®</sup> RTx 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>	<b>Pass</b>

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



Tony Spear-Alfonso  
Production Scientist  
14 Aug 2018



Josh Hersey  
Packaging Quality Control Inspector  
20 Aug 2018