

## New England Biolabs Certificate of Analysis

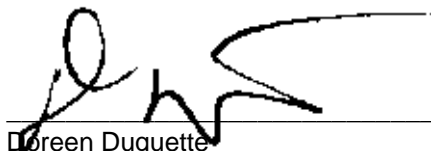
**Product Name:** WarmStart® RTx Reverse Transcriptase  
**Catalog Number:** M0380L  
**Concentration:** 15,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 1 nmol of dTTP into acid-insoluble material in 20 minutes at 50°C.  
**Lot Number:** 10053949  
**Expiration Date:** 07/2021  
**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
M0380LVIAL	WarmStart® RTx Reverse Transcriptase	10047020	Pass
B1003SVIAL	Magnesium Sulfate (MgSO <sub>4</sub> ) Solution	10042724	Pass
B0537SVIAL	Isothermal Amplification Buffer	10035085	Pass

Assay Name/Specification	Lot # 10053949
<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 <0.1% of the total radioactivity.	Pass
<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.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> RTx Reverse Transcriptase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 15 units of WarmStart® RTx Reverse Transcriptase is screened for the	Pass

Assay Name/Specification	Lot # 10053949
<p>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 NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 <math>\mu</math>l of WarmStart® 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>
<p><b>Endonuclease Activity (Nicking)</b> A 50 <math>\mu</math>l reaction in Isothermal Amplification Buffer containing 1 <math>\mu</math>g 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>	<b>Pass</b>

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



Green Duquette  
Production Scientist  
21 Feb 2019



Michael Tonello  
Packaging Quality Control Inspector  
29 Aug 2019