

## New England Biolabs Certificate of Analysis

**Product Name:** WarmStart® RTx Reverse Transcriptase (Glycerol-free)  
**Catalog Number:** M0439L  
**Concentration:** 75,000 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.  
**Packaging Lot Number:** 10247889  
**Expiration Date:** 01/2026  
**Storage Temperature:** -80°C  
**Storage Conditions:** 10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0439L v1.0

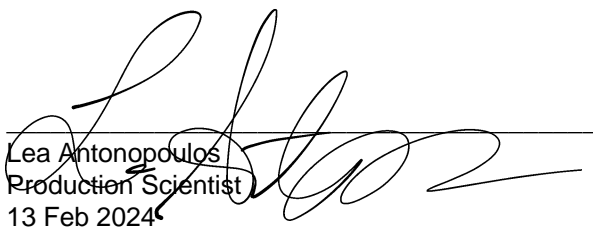
WarmStart® RTx Reverse Transcriptase (Glycerol-free) Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0439LVIAL	WarmStart® RTx Reverse Transcriptase (Glycerol-free)	10225690	Pass
B1714SVIAL	Isothermal Amplification Buffer (Lyo-compatible)	10225701	Pass

Assay Name/Specification	Lot # 10247889
<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 (Glycerol-free) incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<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 (Glycerol-free) incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Functional Testing (RT-LAMP)</b> A 25 µl RT-LAMP reaction with 7.5 units of WarmStart® RTx Reverse Transcriptase (Glycerol-free), 10 ng of genomic RNA and 1X LAMP fluorescent dye results in a threshold time of ≤ 20 minutes as determined by fluorescent detection.	Pass

Assay Name/Specification	Lot # 10247889
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 15 units of WarmStart® RTx Reverse Transcriptase (Glycerol-free) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> RTx Reverse Transcriptase (Glycerol-free) is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>
<p><b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 15 units of WarmStart® RTx Reverse Transcriptase (Glycerol-free) 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>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 15 units of RTx Reverse Transcriptase (Glycerol-free) 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.</p>	<b>Pass</b>

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

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13 Feb 2024



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08 Jul 2024