

## New England Biolabs Certificate of Analysis

**Product Name:** *Induro® Reverse Transcriptase*  
**Catalog Number:** *M0681L*  
**Concentration:** *200,000 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 a total reaction volume of 50 µl in 10 minutes at 55°C using poly(rA)•oligo(dT)18 as template.*  
**Packaging Lot Number:** *10263561*  
**Expiration Date:** *10/2026*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *20 mM Tris-HCl, 300 mM NaCl, 0.1 mM EDTA, 50% Glycerol, (pH 7.5 @ 25°C)*  
**Specification Version:** *PS-M0681S/L/X v2.0*

Induro® Reverse Transcriptase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0681LVIAL	Induro® Reverse Transcriptase	10263559	Pass
B0681AVIAL	Induro® RT Reaction Buffer	10264026	Pass

Assay Name/Specification	Lot # 10263561
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 200 units of Induro® 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>Functional Testing (RT-PCR, length)</b> 200 units of Induro® Reverse Transcriptase is tested for performance in a 20 µl reaction containing 1X Induro® RT Reaction Buffer and 1 µg human total RNA. The length of the product is verified by amplification using 1 µl of the RT reaction and 33 cycles of PCR amplification resulting in the expected 9.3kb product as determined by agarose gel electrophoresis.	<b>Pass</b>
<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 200 units of Induro® Reverse	<b>Pass</b>

Assay Name/Specification	Lot # 10263561
<p>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>	
<p><b>Protein Purity Assay (SDS-PAGE)</b> Induro® Reverse Transcriptase is ≥ 95% 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 200 units of Induro® 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>Single Stranded DNase Activity (FAM-Labeled Oligo)</b> A 50 µl reaction in 1X CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 200 units of Induro® Reverse Transcriptase incubated for 16 hours at 37°C yields &lt;10% degradation as determined by capillary electrophoresis.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 200 units of Induro® Reverse Transcriptase 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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