

## New England Biolabs Certificate of Analysis

**Product Name:** DNA Polymerase I (*E. coli*)  
**Catalog Number:** M0209L  
**Concentration:** 10,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 37°C.  
**Packaging Lot Number:** 10071622  
**Expiration Date:** 03/2022  
**Storage Temperature:** -20°C  
**Storage Conditions:** 25 mM Tris-HCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0209S/L v1.0

DNA Polymerase I ( <i>E. coli</i> ) Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0209LVIAL	DNA Polymerase I ( <i>E. coli</i> )	10071623	Pass
B7002SVIAL	NEBuffer™ 2	10074105	Pass

Assay Name/Specification	Lot # 10071622
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of DNA Polymerase I (<i>E. coli</i>) 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>Phosphatase Activity (pNPP)</b>            A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units DNA Polymerase I (<i>E. coli</i>) incubated for 4 hours at 37°C yields &lt;0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p><b>Protein Purity Assay (SDS-PAGE)</b>            DNA Polymerase I (<i>E. coli</i>) is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p><b>qPCR DNA Contamination (<i>E. coli</i> Genomic)</b>            A minimum of 10 units of DNA Polymerase I (<i>E. coli</i>) 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</p>	Pass

Assay Name/Specification	Lot # 10071622
<p>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> <p><b>RNase Activity (Extended 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 DNA Polymerase I (E. coli) is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<p><b>Pass</b></p>

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



Christie Vazquez  
Production Scientist  
02 Jun 2020



Michael Tonello  
Packaging Quality Control Inspector  
02 Jun 2020