

## New England Biolabs Certificate of Analysis

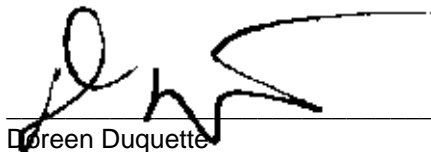
**Product Name:** DNA Polymerase I, Large (Klenow) Fragment  
**Catalog Number:** M0210S  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 37°C.  
**Packaging Lot Number:** 10058172  
**Expiration Date:** 10/2021  
**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-M0210S/L v1.0

DNA Polymerase I, Large (Klenow) Fragment Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0210SVIAL	DNA Polymerase I, Large (Klenow) Fragment	10056416	Pass
B7002SVIAL	NEBuffer™ 2	10052180	Pass

Assay Name/Specification	Lot # 10058172
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of DNA Polymerase I, Large (Klenow) Fragment 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, Large (Klenow) Fragment 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, Large (Klenow) Fragment is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p><b>qPCR DNA Contamination (E. coli Genomic)</b>            A minimum of 50 units of DNA Polymerase I, Large (Klenow) Fragment is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for</p>	Pass

Assay Name/Specification	Lot # 10058172
<p>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> <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, Large (Klenow) Fragment 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.



Doreen Duquette  
Production Scientist  
12 Sep 2019



Michael Tonello  
Packaging Quality Control Inspector  
30 Oct 2019