

New England Biolabs Certificate of Analysis

Product Name: Quick-Load® Taq 2X Master Mix
Catalog Number: M0271L
Concentration: 2 X Concentrate
Packaging Lot Number: 10178690
Expiration Date: 11/2024
Storage Temperature: -20°C
Specification Version: PS-M0271S/L v2.0
Composition (1X): 10 mM Tris-HCl (pH 8.6 @ 25°C), 50 mM KCl, 1.5 mM MgCl₂, 0.2 mM dATP, 0.2 mM dCTP, 0.2 mM dGTP, 0.2 mM dTTP, 5 % Glycerol, 0.08 % IGEPAL® CA-630, 0.05 % Tween® 20, 0.024 % Orange G, 0.0025 % Xylene cyanol, 33 units/ml Taq DNA Polymerase

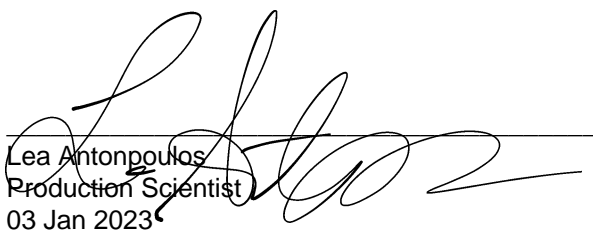
Quick-Load® Taq 2X Master Mix Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0271SVIAL	Quick-Load® Taq 2X Master Mix	10172528	Pass
B9021SVIAL	Magnesium Chloride (MgCl ₂) Solution	10160899	Pass

Assay Name/Specification	Lot # 10178690
<p>Non-Specific DNase Activity (16 hour, Buffer) A 50 µl reaction in 1X Quick-Load® Taq Master Mix containing 1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass
<p>Endonuclease Activity (Nicking) A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of Taq DNA Polymerase incubated for 4 hours at 37°C and 75°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Single Stranded DNase Activity (FAM-Labeled Oligo) A 50 µl reaction in ThermoPol® Reaction Buffer containing a 10 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 25 units of Taq DNA Polymerase incubated for 30 minutes at 37°C and 75°C yields <10% degradation as determined by capillary electrophoresis.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE)</p>	Pass

Assay Name/Specification	Lot # 10178690
Taq DNA Polymerase is $\geq 99\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	
<p>Phosphatase Activity (pNPP) A 200 μl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl₂ containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units of Taq DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p>PCR Amplification (5 kb Lambda, Master Mix) A 25 μl reaction in 1X Quick-Load® Taq Master Mix and 0.2 μM primers containing 5 ng Lambda DNA for 25 cycles of PCR amplification results in the expected 5 kb product.</p>	Pass
<p>RNase Activity (Extended Digestion) A 10 μl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 μl of Quick-Load® Taq 2X Master Mix is incubated at 37°C. After incubation for 4 hours, $>90\%$ of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 5 units of Taq DNA Polymerase 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>	Pass

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

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Lea Antonopoulos
Production Scientist
03 Jan 2023


Michael Tonello
Packaging Quality Control Inspector
16 Feb 2023