

New England Biolabs Certificate of Analysis

Product Name: Quick-Load® Taq 2X Master Mix
Catalog Number: M0271L
Concentration: 2 X Concentrate
Packaging Lot Number: 10077344
Expiration Date: 10/2021
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	10052004	Pass
B9021SVIAL	Magnesium Chloride (MgCl ₂) Solution	10054951	Pass

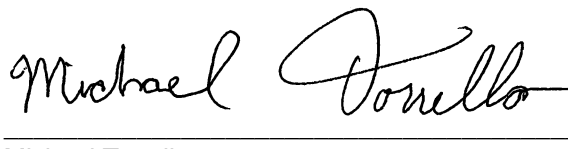
Assay Name/Specification	Lot # 10077344
Single Stranded DNase Activity (FAM-Labeled Oligo) A 50 µl reaction in ThermoPol® Reaction Buffer containing a 10 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 25 units of Taq DNA Polymerase incubated for 30 minutes at 37°C and 75°C yields <10% degradation as determined by capillary electrophoresis.	Pass
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.	Pass
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.	Pass
PCR Amplification (5 kb Lambda, Master Mix)	Pass

Assay Name/Specification	Lot # 10077344
<p>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>	
<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>Protein Purity Assay (SDS-PAGE) Taq DNA Polymerase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue 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
<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

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



Christie Vazquez
Production Scientist
15 Jul 2020



Michael Tonello
Packaging Quality Control Inspector
15 Jul 2020