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New England Biolabs Certificate of Analysis

Product Name: Taq DNA Polymerase with Standard Taq Buffer

Catalog Number: M0273S
Concentration: 5,000 U/ml

Unit Definition: One unit is defined as the amount of enzyme that will incorporate 15

nmol of dNTP into acid insoluble material in 30 minutes at 75°C.

Packaging Lot Number: 10081829
Expiration Date: 04/2022
Storage Temperature: -20°C

Storage Conditions: 10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5 % Tween®

20 , 0.5 % IGEPAL® CA-630 , 50 % Glycerol, (pH 7.4 @ 25°C)

Specification Version: PS-M0273S/L/X/E v2.0

Taq DNA Polymerase with Standard Taq Buffer Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
M0273SVIAL	Taq DNA Polymerase with Standard Taq Buffer	10071653	Pass	
B9014SVIAL	Standard Taq Reaction Buffer Pack	10073672	Pass	

Assay Name/Specification	Lot # 10081829
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
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 Taq DNA Polymerase is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass
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 Taq DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
qPCR DNA Contamination (E. coli Genomic)	Pass



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Assay Name/Specification	Lot # 10081829
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.	
Protein Purity Assay (SDS-PAGE) Taq DNA Polymerase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
Non-Specific DNase Activity (16 Hour) 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 5 units of Taq DNA Polymerase 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 (5.0 kb Lambda DNA) A 50 μl reaction in Standard Taq Reaction Buffer in the presence of 200 μM dNTPs and 0.2 μM primers containing 5 ng Lambda DNA with 1.25 units of Taq DNA Polymerase for 25 cycles of PCR amplification results in the expected 5.0 kb product.	Pass
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

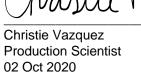
This product has been tested and shown to be in compliance with all specifications.

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Michael Tonello

Packaging Quality Control Inspector 02 Oct 2020