

New England Biolabs Certificate of Analysis

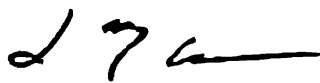
Product Name: Taq DNA Polymerase with ThermoPol[®] Buffer
Catalog Number: M0267E
Concentration: 5,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will incorporate 15 nmol of dNTP into acid-insoluble material in 30 minutes at 75°C.
Lot Number: 10030654
Expiration Date: 06/2020
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-M0267S/L/X/E v1.0

| Taq DNA Polymerase with ThermoPol [®] Buffer Component List | | | |
|--|---|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| M0267X | Taq DNA Polymerase with ThermoPol [®] Buffer | 10019973 | Pass |

| Assay Name/Specification | Lot # 10030654 |
|--|----------------|
| <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 either 37°C or 75°C yields <10% degradation as determined by capillary electrophoresis.</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 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.</p> | Pass |
| <p>Protein Purity Assay (SDS-PAGE)</p> | Pass |

| Assay Name/Specification | Lot # 10030654 |
|---|----------------|
| <p>Taq DNA Polymerase is $\geq 99\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</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 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 (5.0 kb Lambda DNA) A 50 μl reaction in ThermoPol[®] 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.</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 either 37°C or 75°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | Pass |
| <p>Non-Specific DNase Activity (16 Hour) A 50 μl reaction in NEBuffer 2 containing 1 μg of T3 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.</p> | Pass |

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



Lynne Apone
Production Scientist
11 Jul 2018



Michael Tonello
Packaging Quality Control Inspector
11 Dec 2018