

## New England Biolabs Certificate of Analysis

**Product Name:** Deoxynucleotide (dNTP) Solution Mix  
**Catalog Number:** N0447L  
**Concentration:** 10 mM  
**Unit Definition:** N/A  
**Packaging Lot Number:** 10183719  
**Expiration Date:** 12/2024  
**Storage Temperature:** -20°C  
**Storage Conditions:** Supplied in Ultrapure water as a sodium salt (pH 7.5)  
**Specification Version:** PS-N0447S/L v4.0

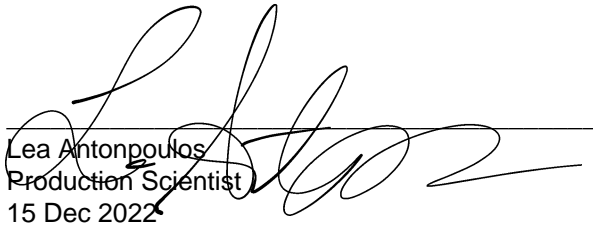
| Deoxynucleotide (dNTP) Solution Mix Component List |                                     |            |                      |
|----------------------------------------------------|-------------------------------------|------------|----------------------|
| NEB Part Number                                    | Component Description               | Lot Number | Individual QC Result |
| N0447LVIAL                                         | Deoxynucleotide (dNTP) Solution Mix | 10171427   | Pass                 |

| Assay Name/Specification                                                                                                                                                                                                                                                                                                                                                           | Lot # 10183719 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 µl of Deoxynucleotide (dNTP) Solution Mix incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.                                                                        | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>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 10 µl of Deoxynucleotide (dNTP) Solution Mix incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass           |
| <b>PCR Amplification (0.5 kb Lambda, dNTPs)</b><br>A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM Deoxynucleotide (dNTP) Solution Mix and 0.2 µM primers containing 1 ng Lambda DNA with 1.25 units of Taq DNA Polymerase for 25 cycles of PCR amplification results in the expected 0.5 kb product.                                                     | Pass           |
| <b>PCR Amplification (2.0 kb Lambda, dNTPs)</b><br>A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM Deoxynucleotide (dNTP) Solution Mix and 0.2 µM primers containing 1 ng Lambda DNA with 1.25 units of Taq DNA Polymerase for 25 cycles of PCR amplification results in                                                                                  | Pass           |

| Assay Name/Specification                                                                                                                                                                                                                                                                                                                                                                                                       | Lot # 10183719 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| the expected 2.0 kb product.                                                                                                                                                                                                                                                                                                                                                                                                   |                |
| <p><b>PCR Amplification (5.0 kb Lambda, dNTPs)</b><br/>A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM Deoxynucleotide (dNTP) Solution Mix and 0.2 µM primers containing 1 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>                                                                                         | <b>Pass</b>    |
| <p><b>Phosphatase Activity (pNPP)</b><br/>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 40 µl Deoxynucleotide (dNTP) Solution Mix incubated for 4 hours at 37°C yields &lt;0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>                                                          | <b>Pass</b>    |
| <p><b>Physical Purity (HPLC)</b><br/>Deoxynucleotide (dNTP) Solution Mix is ≥ 99% pure as determined by HPLC analysis.</p>                                                                                                                                                                                                                                                                                                     | <b>Pass</b>    |
| <p><b>RNase Activity (Extended Digestion)</b><br/>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Deoxynucleotide (dNTP) Solution Mix 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>                                                        | <b>Pass</b>    |
| <p><b>qPCR DNA Contamination (E. coli Genomic)</b><br/>A minimum of 1 µl of Deoxynucleotide (dNTP) Solution Mix 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> | <b>Pass</b>    |

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

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Lea Antonopoulos  
Production Scientist  
15 Dec 2022

  
Michael Tonello  
Packaging Quality Control Inspector  
27 Apr 2023