

## New England Biolabs Certificate of Analysis

<i>Product Name:</i>	<i>Deoxynucleotide (dNTP) Solution Mix</i>
<i>Catalog Number:</i>	<i>N0447S</i>
<i>Concentration:</i>	<i>10 mM</i>
<i>Unit Definition:</i>	<i>N/A</i>
<i>Packaging Lot Number:</i>	<i>10252420</i>
<i>Expiration Date:</i>	<i>06/2026</i>
<i>Storage Temperature:</i>	<i>-20°C</i>
<i>Storage Conditions:</i>	<i>Supplied in Ultrapure water as a sodium salt (pH 7.5)</i>
<i>Specification Version:</i>	<i>PS-N0447S/L v4.0</i>

Deoxynucleotide (dNTP) Solution Mix Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
N0447SVIAL	Deoxynucleotide (dNTP) Solution Mix	10247128	Pass

Assay Name/Specification	Lot # 10252420
<b>Endonuclease Activity (Nicking)</b> 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> 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> 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> 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 # 10252420
the expected 2.0 kb product.	
<p><b>PCR Amplification (5.0 kb Lambda, dNTPs)</b> 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> 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> Deoxynucleotide (dNTP) Solution Mix is ≥ 99% pure as determined by HPLC analysis.</p>	<b>Pass</b>
<p><b>RNase Activity (Extended Digestion)</b> 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> 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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Trinh Nguyen  
Production Scientist  
16 Aug 2024



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Michael Tonello  
Packaging Quality Control Inspector  
21 Aug 2024