

New England Biolabs Certificate of Analysis

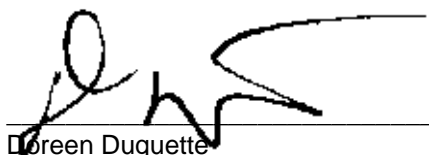
Product Name: Deoxynucleotide (dNTP) Solution Mix
Catalog Number: N0447S
Concentration: 10 mM
Unit Definition: N/A
Lot Number: 10048424
Expiration Date: 02/2021
Storage Temperature: -20°C
Storage Conditions: Supplied in Ultrapure water as a sodium salt (pH 7.5)
Specification Version: PS-N0447S/L v2.0

Deoxynucleotide (dNTP) Solution Mix Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
N0447SVIAL	Deoxynucleotide (dNTP) Solution Mix	10033004	Pass

Assay Name/Specification	Lot # 10048424
Endonuclease Activity (Nicking) 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
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 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
PCR Amplification (0.5 kb Lambda, dNTPs) A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM Deoxynucleotide (dNTP) Solution Mix and 0.5 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
PCR Amplification (2.0 kb Lambda, dNTPs) A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM Deoxynucleotide (dNTP) Solution Mix and 0.5 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 # 10048424
the expected 2.0 kb product.	
<p>PCR Amplification (5.0 kb Lambda, dNTPs) A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM Deoxynucleotide (dNTP) Solution Mix and 0.5 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>	Pass
<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 40 µl Deoxynucleotide (dNTP) Solution Mix incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p>Physical Purity (HPLC) Deoxynucleotide (dNTP) Solution Mix is ≥ 99% pure as determined by HPLC analysis.</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 Deoxynucleotide (dNTP) Solution Mix 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

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



Doreen Duquette
Production Scientist
14 Feb 2019



Jay Minichiello
Packaging Quality Control Inspector
03 Jul 2019