

New England Biolabs Certificate of Analysis

Product Name: Deoxynucleotide (dNTP) Solution Mix
Catalog Number: N0447S
Concentration: 10 mM
Unit Definition: N/A
Lot Number: 10025050
Expiration Date: 07/2020
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	10019484	Pass

Assay Name/Specification	Lot # 10025050
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 # 10025050
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.



Tony Spear-Alfonso
Production Scientist
24 Sep 2018



Michael Tonello
Packaging Quality Control Inspector
05 Oct 2018