

New England Biolabs Certificate of Analysis

Product Name: *dUTP Solution*
Catalog Number: *N0459S*
Concentration: *100 mM*
Packaging Lot Number: *10065943*
Expiration Date: *01/2022*
Storage Temperature: *-20°C*
Storage Conditions: *Supplied in Ultrapure water as a sodium salt (pH 7.5)*
Specification Version: *PS-N0459S v1.0*

dUTP Solution Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
N0459SVIAL	dUTP Solution	10064633	Pass

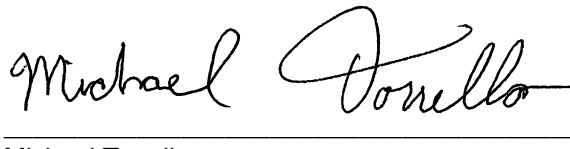
Assay Name/Specification	Lot # 10065943
RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of dUTP Solution is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 1 µl of dUTP Solution 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.	Pass
Physical Purity (HPLC) dUTP Solution is ≥ 99% pure as determined by HPLC analysis.	Pass
Phosphatase Activity (pNPP) A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl ₂ containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 4 µl of dUTP Solution incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
PCR Amplification (2.0 kb Lambda, dNTPs)	Pass

Assay Name/Specification	Lot # 10065943
<p>A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dGTP, dCTP, and dUTP 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 2.0 kb product.</p>	
<p>PCR Amplification (0.5 kb Lambda, dNTPs) A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dGTP, dCTP, and dUTP 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.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) 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 dUTP Solution 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
<p>Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 1 µl of dUTP Solution incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass

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



Christie Vazquez
Production Scientist
22 Jan 2020



Michael Tonello
Packaging Quality Control Inspector
03 Feb 2020