

New England Biolabs Certificate of Analysis

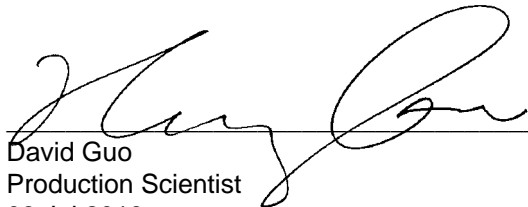
Product Name: *dATP Solution*
Catalog Number: *N0440S*
Concentration: *100 mM*
Unit Definition: *N/A*
Packaging Lot Number: *10057993*
Expiration Date: *06/2021*
Storage Temperature: *-20°C*
Storage Conditions: *Supplied in Ultrapure water as a sodium salt (pH 7.5)*
Specification Version: *PS-N0440S v1.0*

dATP Solution Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
N0440SVIAL	dATP Solution	10044848	Pass

Assay Name/Specification	Lot # 10057993
PCR Amplification (2.0 kb Lambda, dNTPs) A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dGTP, dCTP, and dTTP 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.	Pass
PCR Amplification (5.0 kb Lambda, dNTPs) A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dGTP, dCTP, and dTTP 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.	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 dATP Solution incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
Physical Purity (HPLC) dATP Solution is ≥ 99% pure as determined by HPLC analysis.	Pass
RNase Activity (Extended Digestion)	Pass

Assay Name/Specification	Lot # 10057993
<p>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of dATP 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.</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 dTTP 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>Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 1 µl of dATP Solution incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>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 dATP 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

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



David Guo
Production Scientist
03 Jul 2019



Michael Tonello
Packaging Quality Control Inspector
06 Nov 2019