

## New England Biolabs Certificate of Analysis

**Product Name:** 7-deaza-dGTP  
**Catalog #:** N0445S/L  
**Concentration:** 5 mM  
**Unit Definition:** N/A  
**Lot #:** 0471803  
**Assay Date:** 03/2018  
**Expiration Date:** 3/2020  
**Storage Temp:** -20°C  
**Storage Conditions:** Supplied in Ultrapure water as a lithium salt, (pH 7.0)  
**Specification Version:** PS-N0445S/L v1.0  
**Effective Date:** 18 Aug 2017

Assay Name/Specification (minimum release criteria)	Lot #0471803
<b>Endonuclease Activity (Nicking)</b> - A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 µl of 7-deaza-dGTP incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> - 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 5 µl of 7-deaza-dGTP incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>PCR Amplification (0.5 kb Lambda DNA, 7-deaza)</b> - A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dCTP, dTTP and 7-deaza-dGTP, 0.5 µM primers containing 1 ng Lambda DNA with 5 units of Taq® DNA Polymerase for 25 cycles of PCR amplification results in the expected 0.5 kb product.	<b>Pass</b>
<b>PCR Amplification (2 kb Lambda DNA, 7-deaza)</b> - A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dCTP, dTTP and 7-deaza-dGTP, 0.5 µM primers containing 1 ng Lambda DNA with 5 units of Taq® DNA Polymerase for 25 cycles of PCR amplification results in the expected 2 kb product.	<b>Pass</b>
<b>PCR Amplification (5 kb Lambda DNA, 7-deaza)</b> - A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dCTP, dTTP and 7-deaza-dGTP, 0.5 µM primers containing 1 ng Lambda DNA with 5 units of Taq® DNA Polymerase for 25 cycles of PCR amplification results in the expected 5 kb product.	<b>Pass</b>
<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 <i>p</i> -Nitrophenyl Phosphate (pNPP) and a minimum of 80 µl 7-deaza-dGTP incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	<b>Pass</b>



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Assay Name/Specification (minimum release criteria)	Lot #0471803
<b>Physical Purity (HPLC)</b> - 7-deaza-dGTP is $\geq$ 95% pure as determined by HPLC analysis.	<b>Pass</b>
<b>RNase Activity (Extended Digestion)</b> - A 10 $\mu$ l reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 $\mu$ l of 7-deaza-dGTP 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.	<b>Pass</b>

M. W. Southworth

Authorized by  
Maurice Southworth  
18 Aug 2017



Inspected by  
Tony Spear-Alfonso  
19 Mar 2018

