NEW ENGLAND BioLabs Inc.
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# New England Biolabs
# Certificate of Analysis

| | |
|---|---|
| *Product Name:* | *7-deaza-dGTP* |
| *Catalog Number:* | *N0445L* |
| *Concentration:* | *5 mM* |
| *Unit Definition:* | *N/A* |
| *Lot Number:* | *10048410* |
| *Expiration Date:* | *06/2021* |
| *Storage Temperature:* | *-20°C* |
| *Storage Conditions:* | *Supplied in Ultrapure water as a lithium salt , (pH 7.0)* |
| *Specification Version:* | *PS-N0445S/L v1.0* |

| **7-deaza-dGTP Component List** | | | |
|---|---|---|---|
| **NEB Part Number** | **Component Description** | **Lot Number** | **Individual QC Result** |
| N0445LVIAL | 7-deaza-dGTP | 10048411 | **Pass** |

| **Assay Name/Specification** | **Lot # 10048410** |
|---|---|
| **Endonuclease Activity (Nicking)**<br>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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |
| **Non-Specific DNase Activity (16 Hour)**<br>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 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |
| **RNase Activity (Extended Digestion)**<br>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of 7-deaza-dGTP is incubated at 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | **Pass** |
| **Physical Purity (HPLC)**<br>7-deaza-dGTP is ≥ 95% pure as determined by HPLC analysis. | **Pass** |
| **PCR Amplification (0.5 kb Lambda DNA, 7-deaza)**<br>A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 200 µM dATP, dCTP, | **Pass** |

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| Assay Name/Specification | Lot # 10048410 |
|---|---|
| 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. | |
| **PCR Amplification (2 kb Lambda DNA, 7-deaza)**<br>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. | **Pass** |
| **PCR Amplification (5 kb Lambda DNA, 7-deaza)**<br>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. | **Pass** |
| **Phosphatase Activity (pNPP)**<br>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 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. | **Pass** |

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

Doreen Duquette
Production Scientist
10 Jul 2019

Michael Tonello
Packaging Quality Control Inspector
15 Jul 2019