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## New England Biolabs Product Specification

Product Name: 7-deaza-dGTP
Catalog #: N0445S/L

Concentration: 5 mMUnit Definition: N/A

Shelf Life: 24 months
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: 13 Aug 2015

## Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50  $\mu$ l reaction in NEBuffer 2 containing 1  $\mu$ g of supercoiled PhiX174 DNA and a minimum of 20  $\mu$ l 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.

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 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.

PCR Amplification (0.5 kb Lambda DNA, 7-deaza) - 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.

PCR Amplification (2 kb Lambda DNA, 7-deaza) - 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.

PCR Amplification (5 kb Lambda DNA, 7-deaza) - A 50  $\mu$ l reaction in ThermoPol® Reaction Buffer in the presence of 200  $\mu$ M dATP, dCTP, dTTP and 7-deaza-dGTP, 0.5  $\mu$ M 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.

Phosphatase Activity (pNPP) - A 200  $\mu$ l reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM *p*-Nitrophenol Phosphate (pNPP) and a minimum of 80  $\mu$ l 7-deaza-dGTP incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

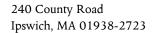
Physical Purity (HPLC) - 7-deaza-dGTP is ≥ 95% pure as determined by HPLC analysis.

RNase Activity (Extended Digestion) - 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.







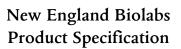


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