

## New England Biolabs Product Specification

<i>Product Name:</i>	<i>OneTaq<sup>®</sup> DNA Polymerase</i>
<i>Catalog #:</i>	<i>M0480S/L/X</i>
<i>Concentration:</i>	<i>5,000 units/ml</i>
<i>Unit Definition:</i>	<i>One unit is defined as the amount of enzyme that will incorporate 15 nmol of dNTP into acid insoluble material in 30 minutes at 75°C.</i>
<i>Shelf Life:</i>	<i>24 months</i>
<i>Storage Temp:</i>	<i>-20°C</i>
<i>Storage Conditions:</i>	<i>10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5 % Tween<sup>®</sup> 20, 0.5 % IGEPAL<sup>®</sup> CA-630, 50 % Glycerol, (pH 7.4 @ 25°C)</i>
<i>Specification Version:</i>	<i>PS-M0480S/L/X v1.0</i>
<i>Effective Date:</i>	<i>05 Aug 2015</i>

### Assay Name/Specification (minimum release criteria)

**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 units of OneTaq<sup>®</sup> DNA Polymerase 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 (5.0 kb Lambda DNA)** - A 25 µl reaction in OneTaq<sup>®</sup> Standard Reaction Buffer in the presence of 200 µM dNTPs and 0.2 µM primers containing 5 ng Lambda DNA with 0.625 units of OneTaq<sup>®</sup> DNA Polymerase for 25 cycles of PCR amplification results in the expected 5.0 kb product.

**PCR Amplification (Buffer Dependent, >65% GC-rich)** - A 25 µl reaction in OneTaq<sup>®</sup> GC Reaction Buffer in the presence of 200 µM dNTPs and 0.2 µM primers containing 10 ng Human Genomic DNA with 0.625 units of OneTaq<sup>®</sup> DNA Polymerase for 30 cycles of PCR amplification results in the buffer-dependent production of the expected 737 bp product.

**PCR Amplification (Enhancer Dependent, >70% GC-rich)** - A 25 µl reaction in OneTaq<sup>®</sup> GC Reaction Buffer and 20% OneTaq<sup>®</sup> High GC Enhancer in the presence of 200 µM dNTPs and 0.2 µM primers containing 10 ng Human Genomic DNA with 0.625 units of OneTaq<sup>®</sup> DNA Polymerase for 30 cycles of PCR amplification results in the enhancer-dependent production of the expected 627 bp product.

**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 OneTaq<sup>®</sup> DNA Polymerase 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.



Derek Robinson  
Director of Quality Control

Date 05 Aug 2015

