

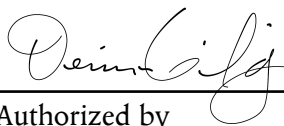
## New England Biolabs Certificate of Analysis

*Product Name:* LongAmp<sup>®</sup> Hot Start Taq DNA Polymerase  
*Catalog #:* M0534S/L  
*Concentration:* 2,500 units/ml  
*Unit Definition:* One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 75°C.  
*Lot #:* 0071612  
*Assay Date:* 12/2016  
*Expiration Date:* 12/2018  
*Storage Temp:* -20°C  
*Storage Conditions:* 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)  
*Specification Version:* PS-M0534S/L v1.0  
*Effective Date:* 15 Jun 2016

Assay Name/Specification (minimum release criteria)	Lot #0071612
<p><b>Inhibition of Primer Extension (Hot Start, Radioactivity Incorporation)</b> - A 50 µl primer extension assay in ThermoPol<sup>®</sup> Reaction Buffer in the presence of 200 µM dNTPs including [<sup>3</sup>H]-dTTP, containing 15 nM primed single-stranded M13mp18 with 10 units of LongAmp<sup>®</sup> Hot Start Taq DNA Polymerase incubated for 16 hours at 25°C yields &gt;95% inhibition when compared to a non-hot start control reaction.</p>	<b>Pass</b>
<p><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 2.5 units of LongAmp<sup>®</sup> Hot Start Taq 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.</p>	<b>Pass</b>
<p><b>PCR Amplification (30 kb Human Genomic DNA)</b> - A 25 µl reaction in LongAmp<sup>®</sup> Taq Reaction Buffer in the presence of 300 µM dNTPs and 0.4 µM primers containing 500 ng Human Genomic DNA with 2.5 units of LongAmp<sup>®</sup> Hot Start Taq DNA Polymerase for 28 cycles of PCR amplification results in the expected 30 kb product.</p>	<b>Pass</b>
<p><b>PCR Amplification (30 kb Lambda DNA)</b> - A 25 µl reaction in LongAmp<sup>®</sup> Taq Reaction Buffer in the presence of 300 µM dNTPs and 0.4 µM primers containing 1 ng Lambda DNA with 2.5 units of LongAmp<sup>®</sup> Hot Start Taq DNA Polymerase for 28 cycles of PCR amplification results in the expected 30 kb product.</p>	<b>Pass</b>

## New England Biolabs Certificate of Analysis

Assay Name/Specification (minimum release criteria)	Lot #0071612
<p><b>PCR Amplification (Hot Start, Human Genomic DNA)</b> - A 50 µl reaction in LongAmp<sup>®</sup> <i>Taq</i> Reaction Buffer in the presence of 200 µM dNTPs and 0.2 µM primers containing 2 ng Human Genomic DNA with 5 units of LongAmp<sup>®</sup> Hot Start <i>Taq</i> DNA Polymerase for 35 cycles of PCR amplification results in the expected 306 bp product, and a decrease in non-specific genomic bands after pre-incubation at room temperature for 1 hour, when compared to a non-hot start control reaction.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (<i>E. coli</i> Genomic)</b> - A minimum of 2.5 units of LongAmp<sup>®</sup> Hot Start <i>Taq</i> DNA Polymerase is screened for the presence of <i>E. coli</i> genomic DNA using SYBR<sup>®</sup> Green qPCR with primers specific for the <i>E. coli</i> 16S rRNA locus. Results are quantified using a standard curve generated from purified <i>E. coli</i> genomic DNA. The measured level of <i>E. coli</i> genomic DNA contamination is ≤ 1 <i>E. coli</i> genome.</p>	<b>Pass</b>
<p><b>RNase Activity (Extended Digestion)</b> - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of LongAmp<sup>®</sup> Hot Start <i>Taq</i> DNA Polymerase is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	<b>Pass</b>



Authorized by  
Denisa Gilaj  
15 Jun 2016



Inspected by  
Tony Spear-Alfonso  
28 Apr 2017

