

New England Biolabs Certificate of Analysis

Product Name: LongAmp® Hot Start Taq DNA Polymerase
Catalog Number: M0534S
Concentration: 2,500 U/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.
Packaging Lot Number: 10060285
Expiration Date: 11/2021
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl , 100 mM KCl , 1 mM DTT , 0.1 mM EDTA , 0.5 % Tween® 20 , 0.5 % IGEPAL® CA-630 , 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M0534S/L v1.0

LongAmp® Hot Start Taq DNA Polymerase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0534SVIAL	LongAmp® Hot Start Taq DNA Polymerase	10059796	Pass
B0323SVIAL	LongAmp® Taq Reaction Buffer	10042779	Pass

Assay Name/Specification	Lot # 10060285
<p>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 LongAmp® Hot Start Taq 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.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 2.5 units of LongAmp® Hot Start Taq DNA Polymerase is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.</p>	Pass
<p>PCR Amplification (Hot Start, Human Genomic DNA) A 50 µl reaction in LongAmp® Taq 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® Hot Start Taq 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>	Pass

Assay Name/Specification	Lot # 10060285
<p>PCR Amplification (30 kb Lambda DNA) A 25 µl reaction in LongAmp® 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® Hot Start Taq DNA Polymerase for 28 cycles of PCR amplification results in the expected 30 kb product.</p>	Pass
<p>PCR Amplification (30 kb Human Genomic DNA) A 25 µl reaction in LongAmp® 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® Hot Start Taq DNA Polymerase for 28 cycles of PCR amplification results in the expected 30 kb product.</p>	Pass
<p>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 2.5 units of LongAmp® 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>	Pass
<p>Inhibition of Primer Extension (Hot Start, Radioactivity Incorporation) A 50 µl primer extension assay in ThermoPol® Reaction Buffer in the presence of 200 µM dNTPs including [³H]-dTTP, containing 15 nM primed single-stranded M13mp18 with 10 units of LongAmp® Hot Start Taq DNA Polymerase incubated for 16 hours at 25°C yields >95% inhibition when compared to a non-hot start control reaction.</p>	Pass

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



Christie Vazquez
Production Scientist
20 Nov 2019



Michael Tonello
Packaging Quality Control Inspector
20 Dec 2019