

New England Biolabs Certificate of Analysis

Product Name: OneTaq[®] Hot Start DNA Polymerase
Catalog Number: M0481X
Concentration: 5,000 U/ml
Unit Definition: 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.
Lot Number: 10019277
Expiration Date: 06/2020
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-M0481S/L/X v1.0

OneTaq [®] Hot Start DNA Polymerase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0481L	OneTaq [®] Hot Start DNA Polymerase	10019278	Pass

Assay Name/Specification	Lot # 10019277
<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 OneTaq[®] Hot Start 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>PCR Amplification (Hot Start 2 kb Lambda DNA) A 25 µl reaction in OneTaq[®] Standard Reaction Buffer in the presence of 200 µM dNTPs and 0.2 µM primers containing 10 pg Lambda DNA and 50 ng Human Genomic DNA with 0.625 units of OneTaq[®] Hot Start DNA Polymerase for 30 cycles of PCR amplification results in an increase in yield of the 2 kb Lambda product and a decrease in non-specific genomic bands when compared to a non-hot start control reaction.</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 2.5 units of OneTaq[®] Hot Start DNA Polymerase incubated for 16 hours at 25°C yields >95% inhibition when compared to a non-hot start control reaction.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour)</p>	Pass

Assay Name/Specification	Lot # 10019277
<p>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[®] Hot Start 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>	
<p>PCR Amplification (5.0 kb Lambda DNA) A 25 µl reaction in OneTaq[®] 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[®] Hot Start DNA Polymerase for 25 cycles of PCR amplification results in the expected 5.0 kb product.</p>	Pass
<p>PCR Amplification (Buffer Dependent, >65% GC-rich) A 25 µl reaction in OneTaq[®] GC 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[®] Hot Start DNA Polymerase for 30 cycles of PCR amplification results in the buffer-dependent production of the expected 737 bp product.</p>	Pass
<p>PCR Amplification (Enhancer Dependent, >70% GC-rich) A 25 µl reaction in OneTaq[®] GC Reaction Buffer and 20% OneTaq[®] 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[®] Hot Start DNA Polymerase for 30 cycles of PCR amplification results in the enhancer-dependent production of the expected 627 bp product.</p>	Pass

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



Lynne Apone
Production Scientist
14 Aug 2018



Michael Tonello
Packaging Quality Control Inspector
14 Aug 2018