

New England Biolabs Certificate of Analysis

Product Name: OneTaq[®] Hot Start DNA Polymerase
Catalog Number: M0481L
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: 10035625
Expiration Date: 08/2020
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
M0481LVIAL	OneTaq [®] Hot Start DNA Polymerase	10027988	Pass
B9026AVIAL	OneTaq [®] High GC Enhancer	0031708	Pass
B9023SVIAL	OneTaq [®] GC Reaction Buffer	0031708	Pass
B9022SVIAL	OneTaq [®] Standard Reaction Buffer	0031708	Pass

Assay Name/Specification	Lot # 10035625
<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
<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</p>	Pass

Assay Name/Specification	Lot # 10035625
<p>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>	
<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>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) 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>	Pass
<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

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



Tony Spear-Alfonso
Production Scientist
01 Nov 2018



Michael Tonello
Packaging Quality Control Inspector
18 Mar 2019