NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*OneTaq® Hot Start 2X Master Mix with Standard Buffer*
Catalog Number:	*M0484L*
Concentration:	*2 X Concentrate*
Packaging Lot Number:	*10097530*
Expiration Date:	*12/2022*
Storage Temperature:	*-20°C*
Specification Version:	*PS-M0484S/L v2.0*
Composition (1X):	*20 mM Tris-HCl (pH 8.9 @ 25°C), 22 mM NH4Cl, 22 mM KCl, 1.8 mM MgCl2, 0.2 mM dATP, 0.2 mM dCTP, 0.2 mM dGTP, 0.2 mM dTTP, 5 % Glycerol, 0.06 % IGEPAL® CA-630, 0.05 % Tween® 20, 25 units/ml OneTaq® Hot Start DNA Polymerase*

OneTaq® Hot Start 2X Master Mix with Standard Buffer Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
M0484SVIAL	OneTaq® Hot Start 2X Master Mix with Standard Buffer	10090172	**Pass**

Assay Name/Specification	**Lot # 10097530**
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 2X Master Mix with Standard Buffer is incubated at 37ºC. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**
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.	**Pass**
PCR Amplification (5 kb Lambda, Master Mix) A 25 µl reaction in 1X OneTaq® Hot Start Master Mix with Standard Buffer and 0.2 µM primers containing 5 ng Lambda DNA for 25 cycles of PCR amplification results in the expected 5 kb product.	**Pass**
Non-Specific DNase Activity (16 hour, Buffer) A 50 µl reaction in 1X OneTaq® Hot Start Master Mix with Standard Buffer containing	**Pass**

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Assay Name/Specification	Lot # 10097530
1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	
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.	**Pass**

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

Christie Vazquez
Production Scientist
25 Jan 2021

Michael Tonello
Packaging Quality Control Inspector
25 Jan 2021