

240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

## New England Biolabs Certificate of Analysis

Product Name:	OneTaq® Hot Start Quick-Load® 2X Master Mix with GC Buffer
Catalog #:	M0489S/L
Concentration:	2X Concentrate
Lot #:	0281712
Assay Date:	12/2017
Expiration Date:	12/2019
Storage Temp:	-20°C
Composition (1X):	80 mM Tris-SO4 (pH 9.2 @ 25°C), 20 mM (NH4)2 SO4, 2 mM MgSO4, 0.2 mM dATP, 0.2 mM dCTP, 0.2 mM dGTP, 0.2 mM dTTP, 5 % Glycerol, 5 % DMSO, 0.06 % IGEPAL® CA-630, 0.05 % Tween® 20, 1 X Xylene cyanol, 1 X Tartrazine, 25 units/ml OneTaq® Hot Start DNA Polymerase
Specification Version:	PS-M0489S/L v1.0
Effective Date:	16 Nov 2017

Assay Name/Specification (minimum release criteria)	Lot #0281712
<b>Inhibition of Primer Extension (Hot Start, Radioactivity Incorporation)</b> - A 50 $\mu$ l primer extension assay in ThermoPol® Reaction Buffer in the presence of 200 $\mu$ M dNTPs including [ <sup>3</sup> H]-dTTP, containing 15 nM primed single-stranded M13mp18 with 2.5 units of One <i>Taq</i> ® Hot Start DNA Polymerase incubated for 16 hours at 25°C yields >95% inhibition when compared to a non-hot start control reaction.	Pass
<b>Non-Specific DNase Activity (16 hour, Buffer)</b> - A 50 $\mu$ l reaction in 1X One <i>Taq</i> ® Hot Start Quick-Load® Master Mix with GC Buffer containing 1 $\mu$ g of T3 DNA in addition to a reaction containing Lambda-HindIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>PCR Amplification (Buffer Dependent, &gt;65% GC-rich, Master Mix)</b> - A 25 $\mu$ l reaction in 1X One <i>Taq</i> ® Hot Start Quick-Load® Master Mix with GC Buffer and 0.2 $\mu$ M primers containing 10 ng Human Genomic DNA for 30 cycles of PCR amplification results in the buffer-dependent production of the 737 bp product.	Pass
<b>PCR Amplification (Enhancer Dependent, &gt;70% GC-rich, Master Mix)</b> - A 25 $\mu$ l reaction in 1X One <i>Taq</i> ® Hot Start Quick-Load® Master Mix with GC Buffer and 20% One <i>Taq</i> ® High GC Enhancer in the presence of 0.2 $\mu$ M primers containing 10 ng Human Genomic DNA for 30 cycles of PCR amplification results in the enhancer-dependent production of the 627 bp product.	Pass



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Assay Name/Specification (minimum release criteria)	Lot #0281712
<b>PCR Amplification (Hot Start 2 kb Lambda DNA)</b> - A 25 $\mu$ l reaction in One <i>Taq</i> ® Standard Reaction Buffer in the presence of 200 $\mu$ M dNTPs and 0.2 $\mu$ M primers containing 10 pg Lambda DNA and 50 ng Human Genomic DNA with 0.625 units of One <i>Taq</i> ® 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
<b>RNase Activity (Extended Digestion)</b> - A 10 $\mu$ l reaction in NEBuffer 4 containing 40 ng of a 300 base single- stranded RNA and a minimum of 1 $\mu$ l of One <i>Taq</i> ® Hot Start Quick-Load® 2X Master Mix with GC Buffer is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass

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Authorized by Lynne Apone 16 Nov 2017



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Inspected by Tony Spear-Alfonso 05 Dec 2017