NEW ENGLAND BioLabs® Inc.

240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

New England Biolabs
Product Specification

Product Name:	*OneTaq® Hot Start 2X Master Mix with Standard Buffer*
Catalog #:	*M0484S/L*
Concentration:	*2X Concentrate*
Shelf Life:	*24 months*
Storage Temp:	*-20°C*
Composition (1X):	*20 mM Tris-HCl (pH 8.9 @ 25°C), 22 mM NH_4Cl, 22 mM KCl, 1.8 mM $MgCl_2$, 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*
Specification Version:	*PS-M0484S/L v1.0*
Effective Date:	*29 Jun 2016*

Assay Name/Specification (minimum release criteria)
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 [^{3}H]-dTTP, containing 15 nM primed single-stranded M13mp18 with 2.5 units of One*Taq*® Hot Start DNA Polymerase incubated for 16 hours at 25°C yields >95% inhibition when compared to a non-hot start control reaction.
Non-Specific DNase Activity (16 hour, Buffer) - A 50 µl reaction in 1X One*Taq*® Hot Start Master Mix with Standard Buffer containing 1 µg 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.
PCR Amplification (5 kb Lambda, Master Mix) - A 25 µl reaction in 1X One*Taq*® 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.
PCR Amplification (Hot Start 2 kb Lambda DNA) - A 25 µl reaction in One*Taq*® 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 One*Taq*® 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.
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 One*Taq*® Hot Start 2X Master Mix with Standard 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.

Date 29 Jun 2016

Derek Robinson
Director of Quality Control

ISO 9001 Registered Quality Management
ISO 14001 Registered Environmental Management
ISO 13485 Registered Medical Devices