

New England Biolabs Certificate of Analysis

Product Name: Deep Vent[®] DNA Polymerase
Catalog #: M0258S/L
Concentration: 2,000 units/ml
Unit Definition: One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 75°C.
Lot #: 0181512
Assay Date: 12/2015
Expiration Date: 12/2017
Storage Temp: -20°C
Storage Conditions: 10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.1 % Triton[®]X-100, 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M0258S/L v1.0
Effective Date: 22 Apr 2016

Assay Name/Specification (minimum release criteria)	Lot #0181512
<p>Endonuclease Activity (Nicking, Polymerase, dNTP) - A 50 µl reaction in ThermoPol[®] Reaction Buffer in the presence of 400 µM dNTPs containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of Deep Vent[™] DNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>PCR Amplification (2.0 kb Lambda DNA) - A 25 µl reaction in ThermoPol[®] Reaction Buffer in the presence of 200 µM dNTPs and 0.2 µM primers containing 5 ng Lambda DNA with 0.5 units of Deep Vent[™] DNA Polymerase for 30 cycles of PCR amplification results in the expected 2.0 kb product.</p>	Pass
<p>Phosphatase Activity (pNPP) - A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl₂ containing 2.5 nM <i>p</i>-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units Deep Vent[™] DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) - Deep Vent[™] DNA Polymerase is ≥ 98% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>qPCR DNA Contamination (<i>E. coli</i> Genomic) - A minimum of 2 units of Deep Vent[™] DNA Polymerase is screened for the presence of <i>E. coli</i> genomic DNA using SYBR[®] Green qPCR with primers specific for the <i>E. coli</i> 16S rRNA locus. Results are quantified using a standard curve generated from purified <i>E. coli</i> genomic DNA. The measured level of <i>E. coli</i> genomic DNA contamination is ≤ 1 <i>E. coli</i> genome.</p>	Pass

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Assay Name/Specification (minimum release criteria)	Lot #0181512
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 Deep Vent™ 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.	Pass



Authorized by
Melanie Fortier
22 Apr 2016



Inspected by
Katie Gebhardt
24 Nov 2015

