

New England Biolabs Certificate of Analysis

Product Name: Deep Vent® (exo-) DNA Polymerase
Catalog Number: M0259L
Concentration: 2,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material 30 minutes at 75°C.
Lot Number: 10015376
Expiration Date: 06/2020
Storage Temperature: -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-M0259S/L v1.0

Deep Vent® (exo-) DNA Polymerase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0259LVIAL	Deep Vent® (exo-) DNA Polymerase	10009885	Pass
B9004SVIAL	ThermoPol® Reaction Buffer Pack	0031712	Pass
B1003SVIAL	Magnesium Sulfate (MgSO ₄) Solution	0021701	Pass

Assay Name/Specification	Lot # 10015376
Protein Purity Assay (SDS-PAGE) Deep Vent™ (exo-) DNA Polymerase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
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 1 unit of Deep Vent™ (exo-) DNA Polymerase for 25 cycles of PCR amplification results in the expected 2.0 kb product.	Pass
Phosphatase Activity (pNPP) A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl ₂ containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units Deep Vent™ (exo-) DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
Single Stranded DNase Activity (FAM-Labeled Oligo) A 20 µl reaction in ThermoPol® Reaction Buffer containing a 10 nM solution of a	Pass

Assay Name/Specification	Lot # 10015376
<p>fluorescent internal labeled oligonucleotide and a minimum of 20 units of Deep Vent™ (exo-) DNA Polymerase incubated for 30 minutes at either 37°C or 75°C yields <10% degradation as determined by capillary electrophoresis.</p>	
<p>Endonuclease Activity (Nicking) A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of Deep Vent™ (exo-) DNA Polymerase incubated for 4 hours at either 37°C or 75°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</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 2 units of Deep Vent™ (exo-) 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>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 20 units of Deep Vent™ (exo-) DNA Polymerase incubated for 4 hours at either 37°C or 75°C releases <0.1% of the total radioactivity.</p>	Pass

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



Tony Spear-Alfonso
Production Scientist
31 May 2018



Josh Hersey
Packaging Quality Control Inspector
11 Jul 2018