

*be* INSPIRED *drive* DISCOVERY *stay* GENUINE

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:	Vent® DNA Polymerase
Catalog Number:	M0254S
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 in 30 minutes at 75°C.
Packaging Lot Number:	10210699
Expiration Date:	08/2025
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-M0254S/L v1.0

Vent® DNA Polymerase Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
M0254SVIAL	Vent® DNA Polymerase	10204812	Pass	
B9004SVIAL	ThermoPol® Reaction Buffer Pack	10187437	Pass	
B1003SVIAL	Magnesium Sulfate (MgSO <sub>4</sub> ) Solution	10174353	Pass	

Assay Name/Specification	Lot # 10210699
<b>Endonuclease Activity (Nicking, Polymerase, dNTP)</b> A 50 µl reaction in ThermoPol® Reaction Buffer in the presence of 400 µM dNTPs containing 1 µg of supercoiled pUC19 DNA and a minimum of 20 units of Vent® DNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
PCR Amplification (2.0 kb Lambda DNA) A 25 $\mu$ I reaction in ThermoPol® Reaction Buffer in the presence of 200 $\mu$ M dNTPs and 0.5 $\mu$ M primers containing 5 ng Lambda DNA with 0.25 units of Vent® 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 MgCl2 containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units Vent® DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
Protein Purity Assay (SDS-PAGE)	Pass





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Assay Name/Specification	Lot # 10210699
Vent® DNA Polymerase is $\geq$ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	
<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 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
<b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 2 units of Vent® DNA Polymerase is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.	Pass

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Antonpoulos Ĺеа Production Scientist 11 Sep 2023

Much

Michael Tonello Packaging Quality Control Inspector 06 Oct 2023

