

*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:        | M0254L  |
| 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:  | 10083499  |
| Expiration Date:       | 09/2022   |
| Storage Temperature:   | -20°C   |
| Storage Conditions:    | 10 mM Tris-HCl , 100 mM KCl , 1 mM DTT , 0.1 mM EDTA , 0.1 %<br>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 |  |
| M0254LVIAL                          | Vent® DNA Polymerase                            | 10083500   | Pass                 |  |
| B9004SVIAL                          | ThermoPol® Reaction Buffer Pack                 | 10072023   | Pass                 |  |
| B1003SVIAL                          | Magnesium Sulfate (MgSO <sub>4</sub> ) Solution | 10076260   | Pass                 |  |

| Assay Name/Specification  | Lot # 10083499 |
|---|----------------|
| <b>Endonuclease Activity (Nicking, Polymerase, dNTP)</b><br>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)<br>A 25 $\mu$ I reaction in ThermoPol® Reaction Buffer in the presence of 200 $\mu$ M dNTPs and<br>0.5 $\mu$ M primers containing 5 ng Lambda DNA with 0.25 units of Vent® DNA Polymerase<br>for 25 cycles of PCR amplification results in the expected 2.0 kb product.   | Pass           |
| <b>Phosphatase Activity (pNPP)</b><br>A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl2 containing 2.5 mM<br>p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units Vent® DNA Polymerase<br>incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity<br>as determined by spectrophotometric analysis.                   | Pass           |
| Protein Purity Assay (SDS-PAGE)   | Pass           |





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| Assay Name/Specification   | Lot # 10083499 |
|--|----------------|
| Vent® DNA Polymerase is $\geq$ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.   |                |
| <b>qPCR DNA Contamination (E. coli Genomic)</b><br>A minimum of 2 units of Vent® DNA Polymerase is screened for the presence of E. coli<br>genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA<br>locus. Results are quantified using a standard curve generated from purified E. coli<br>genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli<br>genome. | Pass           |
| <b>RNase Activity (Extended Digestion)</b><br>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA<br>and a minimum of 1 µl of Vent® DNA Polymerase is incubated at 37°C. After incubation<br>for 16 hours, >90% of the substrate RNA remains intact as determined by gel<br>electrophoresis using fluorescent detection.   | 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.

vistie Vayquez

Christie Vazquez Production Scientist 30 Sep 2020

Mich

Michael Tonello Packaging Quality Control Inspector 30 Sep 2020

