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 #: M0254S/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 #:
 0341712

 Assay Date:
 12/2017

 Expiration Date:
 12/2019

 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°)~100~mM~KCl~,~1~mM~DTT~,~0.1~mM~EDTA~,~0.1~%~Triton & X-100~,~50~%~Glycerol~,~(pH~7.4~@~25°)~100~mM~KCl~,~1~mM~DTT~,~0.1~mM~EDTA~,~0.1~%~Triton & X-100~,~50~%~Glycerol~,~(pH~7.4~@~25°)~100~,~50~%~Glycerol~,~(pH~7.4~@~25°)~100~,~50~%~Glycerol~,~(pH~7.4~@~25°)~100~,~50~%~Glycerol~,~(pH~7.4~@~25°)~100~,~50~%~Glycerol~,~(pH~7.4~@~25°)~100~,~0.1~%~Triton & X-100~,~0.1~%~Triton & X-100~,~0.1~%~Triton

*C*)

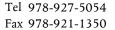
Specification Version: PS-M0254S/L v1.0 Effective Date: 17 May 2016

Assay Name/Specification (minimum release criteria)	Lot #0341712
Endonuclease Activity (Nicking, Polymerase, dNTP) - A 50 $\mu$ l reaction in ThermoPol® Reaction Buffer in the presence of 400 $\mu$ M dNTPs containing 1 $\mu$ g 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 $\mu$ l 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 $\mu$ l reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl <sub>2</sub> 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
<b>Protein Purity Assay (SDS-PAGE)</b> - Vent® DNA Polymerase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>qPCR DNA Contamination (</b> <i>E. coli</i> <b>Genomic)</b> - A minimum of 2 units of 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 $\leq 1$ <i>E. coli</i> genome.	Pass









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Assay Name/Specification (minimum release criteria)	Lot #0341712
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 Vent® DNA Polymerase is incubated at 37°C. After incubation for 16	Pass
hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	

Authorized by Melanie Fortier 17 May 2016







Inspected by
Tony Spear-Alfonso

10 Jan 2018