

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: Sulfolobus DNA Polymerase IV

Catalog Number: M0327S
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 55°C.

Lot Number: 10014222
Expiration Date: 06/2020
Storage Temperature: -20°C

Storage Conditions: 10 mM Tris-HCl , 100 mM KCl , 1 mM DTT , 0.1 mM EDTA , 50 %

Glycerol, (pH 7.4 @ 25°C)

Specification Version: PS-M0327S/L v1.0

| Sulfolobus DNA Polymerase IV Component List | | | | |
|---|---------------------------------|------------|----------------------|--|
| NEB Part Number | Component Description | Lot Number | Individual QC Result | |
| M0327SVIAL | Sulfolobus DNA Polymerase IV | 10009974 | Pass | |
| B9004SVIAL | ThermoPol® Reaction Buffer Pack | 0031712 | Pass | |

| Assay Name/Specification | Lot # 10014222 |
|---|----------------|
| 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 Sulfolobus DNA Polymerase IV incubated for 4 hours at either 37°C or 55°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | Pass |
| 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 Sulfolobus DNA Polymerase IV incubated for 4 hours at either 37°C or 55°C releases <0.1% of the total radioactivity. | Pass |
| 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 Sulfolobus DNA Polymerase IV incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass |
| Protein Purity Assay (SDS-PAGE) | Pass |



M0327S / Lot: 10014222

Page 1 of 2

| Assay Name/Specification | Lot # 10014222 | |
|---|----------------|--|
| Sulfolobus DNA Polymerase IV is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection. | | |
| qPCR DNA Contamination (E. coli Genomic) A minimum of 2 units of Sulfolobus DNA Polymerase IV 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 | |
| Single Stranded DNase Activity (FAM-Labeled Oligo) A 20 µl reaction in ThermoPol® Reaction Buffer containing a 10 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 20 units of Sulfolobus DNA Polymerase IV incubated for 30 minutes at either 37°C or 55°C yields <10% degradation as determined by capillary electrophoresis. | Pass | |

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

Lynne Apone

Production Scientist 12 Jul 2018 Michael Tonello

Packaging Quality Control Inspector

16 Jul 2018



M0327S / Lot: 10014222

Page 2 of 2