

## 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.  
**Packaging Lot Number:** 10157004  
**Expiration Date:** 07/2024  
**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 v2.0

Sulfolobus DNA Polymerase IV Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0327SVIAL	Sulfolobus DNA Polymerase IV	10157002	Pass
B9004SVIAL	ThermoPol® Reaction Buffer Pack	10153016	Pass

Assay Name/Specification	Lot # 10157004
<p><b>qPCR DNA Contamination (E. coli Genomic)</b>            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 <math>\leq 1</math> E. coli genome.</p>	Pass
<p><b>Endonuclease Activity (Nicking)</b>            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 37°C and 55°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p><b>Single Stranded DNase Activity (FAM-Labeled Oligo)</b>            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 37°C and 55°C yields &lt;10% degradation as determined by capillary electrophoresis.</p>	Pass

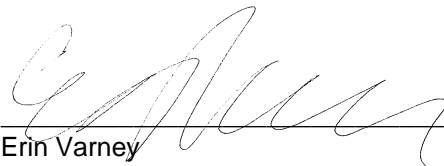
Assay Name/Specification	Lot # 10157004
<p><b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 20 units of Sulfolobus DNA Polymerase IV incubated for 4 hours at 37°C and 55°C releases &lt;0.1% of the total radioactivity.</p>	<b>Pass</b>
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 or T7 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.</p>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> Sulfolobus DNA Polymerase IV is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>

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

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22 Jul 2022



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