

## 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:** 10240721  
**Expiration Date:** 02/2026  
**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

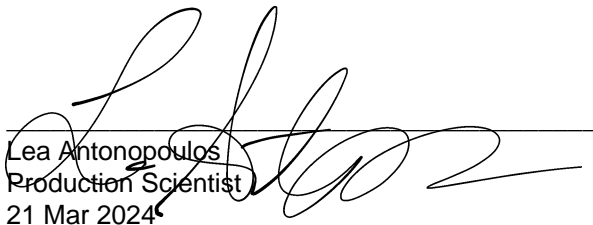
Sulfolobus DNA Polymerase IV Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0327SVIAL	Sulfolobus DNA Polymerase IV	10234137	Pass
B9004SVIAL	ThermoPol® Reaction Buffer Pack	10231728	Pass

Assay Name/Specification	Lot # 10240721
<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 <10% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<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 <0.1% of the total radioactivity.	<b>Pass</b>
<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.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b>	<b>Pass</b>

Assay Name/Specification	Lot # 10240721
<p>Sulfolobus DNA Polymerase IV is <math>\geq 95\%</math> pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	
<p><b>Single Stranded DNase Activity (FAM-Labeled Oligo)</b> A 20 <math>\mu</math>l 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>	<b>Pass</b>
<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>	<b>Pass</b>

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](http://www.neb.com/trademarks) for additional information.

  
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21 Mar 2024

  
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