

New England Biolabs Certificate of Analysis

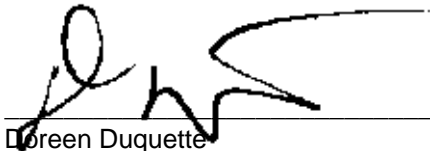
Product Name: *Sulfolobus DNA Polymerase IV*
Catalog Number: M0327S
Concentration: 2,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 55°C.
Packaging Lot Number: 10057699
Expiration Date: 10/2021
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	10052121	Pass
B9004SVIAL	ThermoPol® Reaction Buffer Pack	10041932	Pass

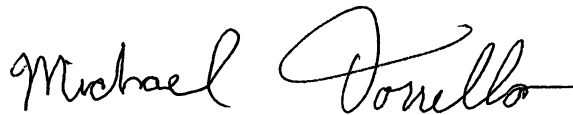
Assay Name/Specification	Lot # 10057699
<p>Endonuclease Activity (Nicking) A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of Sulfolobus DNA Polymerase IV incubated for 4 hours at 37°C and 55°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>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 37°C and 55°C releases <0.1% of the total radioactivity.</p>	Pass
<p>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.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE)</p>	Pass

Assay Name/Specification	Lot # 10057699
Sulfolobus DNA Polymerase IV is \geq 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	
<p>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 \leq 1 E. coli genome.</p>	Pass
<p>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 37[°]C and 55[°]C yields <10% degradation as determined by capillary electrophoresis.</p>	Pass

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



Dawn Duquette
Production Scientist
18 Apr 2019



Michael Tonello
Packaging Quality Control Inspector
21 Nov 2019