

New England Biolabs Certificate of Analysis

Product Name: *Sulfolobus DNA Polymerase IV*
Catalog #: *M0327S/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 55°C.*
Lot #: *0011606*
Assay Date: *06/2016*
Expiration Date: *6/2018*
Storage Temp: *-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*
Effective Date: *17 May 2016*

Assay Name/Specification (minimum release criteria)	Lot #0011606
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 <i>Sulfolobus</i> 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 [³ H] <i>E. coli</i> DNA and a minimum of 20 units of <i>Sulfolobus</i> 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 <i>Sulfolobus</i> 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) - <i>Sulfolobus</i> DNA Polymerase IV is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
qPCR DNA Contamination (<i>E. coli</i> Genomic) - A minimum of 2 units of <i>Sulfolobus</i> DNA Polymerase IV 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 ≤ 1 <i>E. coli</i> genome.	Pass



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Assay Name/Specification (minimum release criteria)	Lot #0011606
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 <i>Sulfolobus</i> DNA Polymerase IV incubated for 30 minutes at either 37°C or 55°C yields <10% degradation as determined by capillary electrophoresis.	Pass



Authorized by
Melanie Fortier
17 May 2016



Inspected by
Lea Antonopoulos
27 May 2016

