

## New England Biolabs Certificate of Analysis

**Product Name:** Antarctic Thermolabile UDG  
**Catalog Number:** M0372L  
**Concentration:** 1,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that catalyzes the release of 60 pmol of uracil per minute from double-stranded, uracil-containing DNA. Activity is measured by release of [ 3H]-uracil in a 50 µl reaction containing 0.2 µg DNA (104-105 cpm/µg) in 30 minutes at 37°C.  
**Lot Number:** 10025424  
**Expiration Date:** 09/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0372S/L v1.0

Antarctic Thermolabile UDG Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0372LVIAL	Antarctic Thermolabile UDG	10020154	Pass
B9014SVIAL	Standard Taq Reaction Buffer Pack	0021603	Pass

Assay Name/Specification	Lot # 10025424
<b>DNase Activity (Labeled Oligo, 3' extension)</b> A 50 µl reaction in NEBuffer 4 containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 3' extension and a minimum of 1 unit of Antarctic Thermolabile UDG incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.	Pass
<b>DNase Activity (Labeled Oligo, 5' extension)</b> A 50 µl reaction in NEBuffer 4 containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 5' extension and a minimum of 1 unit of Antarctic Thermolabile UDG incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.	Pass
<b>Double Stranded DNase Activity (Labeled Oligo)</b> A 50 µl reaction in NEBuffer 4 containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a blunt end and a minimum of 1 unit of Antarctic Thermolabile UDG incubated for 16 hours at 37°C yields <5% degradation as	Pass

Assay Name/Specification	Lot # 10025424
determined by capillary electrophoresis.	
<p><b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in Standard Taq Reaction Buffer containing 1 µg of supercoiled PhiX174 RF I DNA and a minimum of 15 units of Antarctic Thermolabile UDG incubated for 4 hours at 37°C results in &lt;20% conversion to RFI as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in Standard Taq Reaction Buffer containing 1 µg of HindIII digested Lambda DNA and a minimum of 50 units of Antarctic Thermolabile UDG 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> Antarctic Thermolabile UDG is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 1 unit of Antarctic Thermolabile UDG 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.</p>	<b>Pass</b>
<p><b>RNase Activity (Extended Digestion)</b> A 10 µl reaction in NEBuffer 4 containing 40 ng of f-300 RNA transcript and a minimum of 1 unit of Antarctic Thermolabile UDG is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Single Stranded DNase Activity (FAM-Labeled Oligo)</b> A 50 µl reaction in NEBuffer 4 containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 1 unit of Antarctic Thermolabile UDG incubated for 16 hours at 37°C yields &lt;5% degradation as determined by capillary electrophoresis.</p>	<b>Pass</b>

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

*Lauren Higgins*

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Lauren Sears Higgins  
Production Scientist  
06 Sep 2018

*Michael Tonello*

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Michael Tonello  
Packaging Quality Control Inspector  
09 Oct 2018