

## 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.  
**Packaging Lot Number:** 10147200  
**Expiration Date:** 02/2024  
**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        | 10137673   | Pass                 |
| B9014SVIAL                                | Standard Taq Reaction Buffer Pack | 10143506   | Pass                 |

| Assay Name/Specification   | Lot # 10147200 |
|--|----------------|
| <p><b>Single Stranded DNase Activity (FAM-Labeled Oligo)</b><br/>           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>  | Pass           |
| <p><b>Protein Purity Assay (SDS-PAGE)</b><br/>           Antarctic Thermolabile UDG is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>   | Pass           |
| <p><b>qPCR DNA Contamination (E. coli Genomic)</b><br/>           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> | Pass           |

| Assay Name/Specification  | Lot # 10147200 |
|---|----------------|
| <p><b>RNase Activity (Extended Digestion)</b><br/>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>Non-Specific DNase Activity (16 Hour)</b><br/>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>Endonuclease Activity (Nicking)</b><br/>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>Double Stranded DNase Activity (Labeled Oligo)</b><br/>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 &lt;5% degradation as determined by capillary electrophoresis.</p>  | <b>Pass</b>    |
| <p><b>DNase Activity (Labeled Oligo, 5' extension)</b><br/>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 &lt;5% degradation as determined by capillary electrophoresis.</p> | <b>Pass</b>    |
| <p><b>DNase Activity (Labeled Oligo, 3' extension)</b><br/>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 &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.

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31 Mar 2022

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31 Mar 2022