

New England Biolabs Certificate of Analysis

Product Name: *Thermolabile USER® II Enzyme*
Catalog Number: *M5508S*
Concentration: *1,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to nick 10 pmol of a 34 mer fluorescently labeled oligonucleotide duplex containing a single uracil base in 15 minutes at 37°C in a total reaction volume of 10 µL in 1X T4 DNA Ligase Buffer.*
Packaging Lot Number: *10209040*
Expiration Date: *10/2025*
Storage Temperature: *-20°C*
Storage Conditions: *25 mM KCl, 35 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 15 mM Tris-HCl, 100 µg/ml BSA, 50 % Glycerol, (pH 7.5 @ 25°C)*
Specification Version: *PS-M5508S/L v1.0*

Thermolabile USER® II Enzyme Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M5508SVIAL	Thermolabile USER® II Enzyme	10208867	Pass
B6004SVIAL	rCutSmart™ Buffer	10202504	Pass

Assay Name/Specification	Lot # 10209040
<p>Functional Testing (Thermolability, Endonuclease III) A 10 µl reaction in CutSmart® Buffer containing 10 pmol of a 34 mer fluorescently labeled oligonucleotide duplex containing a single uracil base and 1 unit of Thermolabile USER® II Enzyme was incubated for 15 minutes at 37°C followed by heat inactivation for 10 minutes at 65°C. The addition of 10 pmol of a 34 mer fluorescently labeled oligonucleotide duplex containing a single AP site and incubation for 15 minutes at 37°C followed by 10 minutes at 75°C, results in no cleavage of additional substrate.</p>	Pass
<p>Functional Testing (Thermolability, UDG) A 10 µl reaction in CutSmart® Buffer containing 10 pmol of a 34 mer fluorescently labeled oligonucleotide duplex containing a single uracil base and 1 unit of Thermolabile USER® II Enzyme was incubated for 15 minutes at 37°C followed by heat inactivation for 10 minutes at 65°C. The addition of 10 pmol of a 34 mer fluorescently labeled oligonucleotide duplex containing a single uracil base with 20 units of Endonuclease III and incubation for 15 minutes at 37°C followed by 10 minutes at 75°C, results in no cleavage of additional substrate.</p>	Pass

Assay Name/Specification	Lot # 10209040
<p>Functional Testing (USER, Transformation assay) A 10 µl reaction in ThermoPol[®] Reaction Buffer containing 20 ng linearized pNEB206A, 100 ng of a 950 bp control PCR product and 1 unit of Thermolabile USER[®] II Enzyme was incubated for 15 minutes at 37°C followed by 15 minutes at 25°C. After transformation into ER2267 chemically-competent cells >95% of colonies contained recombinant plasmid.</p>	Pass
<p>RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Thermolabile USER[®] II Enzyme is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 1 unit of Thermolabile USER[®] II Enzyme 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

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

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Jamie Souza
Production Scientist
04 Oct 2023



Michael Tonello
Packaging Quality Control Inspector
05 Oct 2023