

New England Biolabs Certificate of Analysis

Product Name: *Mismatch Endonuclease I*
Catalog Number: M0678S
Concentration: 80,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to cleave $\geq 50\%$ of 0.2 pmol of a fluorescently labeled 60mer oligonucleotide duplex containing a single T-T mismatch in 30 minutes at 37°C in a total reaction volume of 20 μ l in 1X NEBuffer r2.1.
Packaging Lot Number: 10243525
Expiration Date: 12/2025
Storage Temperature: -20°C
Storage Conditions: 500 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M0678S v1.0

Mismatch Endonuclease I Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0678SVIAL	Mismatch Endonuclease I	10220029	Pass
B6002SVIAL	NEBuffer™ r2.1	10231025	Pass

Assay Name/Specification	Lot # 10243525
<p>DNase Activity (Labeled Oligo, 3' extension) A 50 μl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 3' extension and a minimum of 5 μl of Mismatch Endonuclease I incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.</p>	Pass
<p>Double Stranded DNase Activity (Labeled Oligo) A 50 μl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a blunt end and a minimum of 5 μl of Mismatch Endonuclease I incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 μl reaction in NEBuffer™ r2.1 containing 1 μg of Lambda-HindIII DNA and a minimum of 400 units of Mismatch Endonuclease I 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

Assay Name/Specification	Lot # 10243525
<p>Protein Purity Assay (SDS-PAGE) Mismatch Endonuclease I is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</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 80 units of Mismatch Endonuclease I 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>Single Stranded DNase Activity (FAM-Labeled Oligo) A 50 μl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 5 μl of Mismatch Endonuclease I incubated for 16 hours at 37°C yields $<5\%$ degradation as determined by capillary electrophoresis.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 80 units of Mismatch Endonuclease I 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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 23 Feb 2024


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 Packaging Quality Control Inspector
 14 May 2024