

New England Biolabs Certificate of Analysis

Product Name: MseI
Catalog Number: R0525M
Concentration: 50,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10149287
Expiration Date: 05/2024
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)
Specification Version: PS-R0525M v2.0

MseI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0525M VIAL	MseI	10149283	Pass
B7024A VIAL	Gel Loading Dye, Purple (6X)	10136927	Pass
B6004S VIAL	rCutSmart™ Buffer	10138404	Pass

Assay Name/Specification	Lot # 10149287
Functional Testing (15 minute Digest) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of MseI incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with MseI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with MseI.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of MseI 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.	Pass
Protein Purity Assay (SDS-PAGE)	Pass

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MseI is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 30 units of MseI incubated for 4 hours at 37°C releases <0.2% of the total radioactivity.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of MseI 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

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

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Production Scientist
06 Jun 2022



Michael Tonello
Packaging Quality Control Inspector
06 Jun 2022