

New England Biolabs Certificate of Analysis

Product Name: Mlul-HF®
Catalog Number: R3198S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10089958
Expiration Date: 08/2022
Storage Temperature: -20°C
Storage Conditions: 200 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 200 µg/ml BSA
Specification Version: PS-R3198S/L v1.0

| Mlul-HF® Component List | | | |
|-------------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R3198SVIAL | Mlul-HF® | 10080036 | Pass |
| B7204SVIAL | CutSmart® Buffer | 10091029 | Pass |
| B7024AVIAL | Gel Loading Dye, Purple (6X) | 10089392 | Pass |

| Assay Name/Specification | Lot # 10089958 |
|--|----------------|
| Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of Mlul-HF incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass |
| Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda DNA with Mlul-HF, >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 Mlul-HF. | Pass |
| Functional Test (15 minute Digest) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of Mlul-HF incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis. | Pass |
| Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of Mlul-HF incubated | Pass |

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|---|----------------|
| for 4 hours at 37°C releases <0.1% of the total radioactivity. | |
| <p>Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 60 units of MluI-HF incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | Pass |
| <p>Protein Purity Assay (SDS-PAGE) MluI-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> | Pass |

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

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Penghua Zhang
Production Scientist
06 Dec 2020



Josh Hersey
Packaging Quality Control Inspector
06 Dec 2020