

New England Biolabs Certificate of Analysis

Product Name: MfeI
Catalog Number: R0589L
Concentration: 10,000 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: 10092124
Expiration Date: 07/2021
Storage Temperature: -20°C
Storage Conditions: 50 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-R0589S/L v2.0

| MfeI Component List | | | |
|---------------------|-----------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R0589LVIAL | MfeI | 10079177 | Pass |
| B7204SVIAL | CutSmart® Buffer | 10089402 | Pass |

| Assay Name/Specification | Lot # 10092124 |
|---|----------------|
| <p>Blue-White Screening (Terminal Integrity) A sample of LITMUS38i vector linearized with a 10-fold excess of MfeI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.</p> | Pass |
| <p>Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 10 units of MfeI incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | Pass |
| <p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 10 units of MfeI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p> | Pass |
| <p>Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda DNA with MfeI, >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 MfeI.</p> | Pass |

| Assay Name/Specification | Lot # 10092124 |
|--|--------------------|
| <p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 30 Units of MfeI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> | <p>Pass</p> |

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

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Penghua Zhang
Production Scientist
24 Nov 2020



Josh Hersey
Packaging Quality Control Inspector
24 Nov 2020