## Product Name:

*MfeI*

## Catalog #:

R0589S/L

## Concentration:

10,000 units/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.

## Lot #:

0081411

## Assay Date:

11/2014

## Expiration Date:

11/2015

## Storage Temp:

-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 v1.0

## Effective Date:

15 Nov 2013

### Assay Name/Specification (minimum release criteria) | Lot #0081411

**Blue-White Screening (Terminal Integrity)** - A sample of LITMUS28i 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.  

Pass

**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.  

Pass

**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.  

Pass

**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.  

Pass

**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.  

Pass
New England Biolabs
Certificate of Analysis

* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.

Authorized by
Maurice Southworth
15 Nov 2013

Inspected by
Anthony Francis
24 Sep 2014