

## New England Biolabs Certificate of Analysis

**Product Name:** BstEII-HF<sup>®</sup>  
**Catalog Number:** R3162L  
**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.  
**Lot Number:** 10031977  
**Expiration Date:** 12/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R3162S/L v1.0

| BstEII-HF <sup>®</sup> Component List |                              |            |                      |
|---------------------------------------|------------------------------|------------|----------------------|
| NEB Part Number                       | Component Description        | Lot Number | Individual QC Result |
| R3162LVIAL                            | BstEII-HF <sup>®</sup>       | 10031978   | Pass                 |
| B7204SVIAL                            | CutSmart <sup>®</sup> Buffer | 10031564   | Pass                 |
| B7024SVIAL                            | Gel Loading Dye, Purple (6X) | 10021135   | Pass                 |

| Assay Name/Specification  | Lot # 10031977 |
|---|----------------|
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 60 units of BstEII-HF <sup>™</sup> incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.           | Pass           |
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 60 units of BstEII-HF <sup>™</sup> incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>After a 10-fold over-digestion of Lambda DNA with BstEII-HF <sup>™</sup> , >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 BstEII-HF <sup>™</sup> .                                 | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of Lambda DNA and a minimum of 60 units of BstEII-HF <sup>™</sup> incubated for 16 hours at 37°C results in a DNA pattern free   | Pass           |

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|--|----------------|
| of detectable nuclease degradation as determined by agarose gel electrophoresis. |                |

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



Jianying Luo  
Production Scientist  
18 Dec 2018



Michael Tonello  
Packaging Quality Control Inspector  
07 Jan 2019