

## New England Biolabs Certificate of Analysis

**Product Name:** *BstBI*  
**Catalog Number:** *R0519S*  
**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 rCutSmart Buffer in 1 hour at 65°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10185084*  
**Expiration Date:** *12/2024*  
**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-R0519S/L v2.0*

| BstBI Component List |                       |            |                      |
|----------------------|-----------------------|------------|----------------------|
| NEB Part Number      | Component Description | Lot Number | Individual QC Result |
| R0519SVIAL           | BstBI                 | 10171828   | Pass                 |
| B6004SVIAL           | rCutSmart™ Buffer     | 10182167   | Pass                 |

| Assay Name/Specification   | Lot # 10185084 |
|--|----------------|
| <p><b>Endonuclease Activity (Nicking)</b><br/>           A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 20 units of BstBI incubated for 4 hours at 65°C results in &lt;20% conversion to the nicked form as determined by agarose gel electrophoresis.</p>            | Pass           |
| <p><b>Exonuclease Activity (Radioactivity Release)</b><br/>           A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 100 units of BstBI incubated for 4 hours at 65°C releases &lt;0.1% of the total radioactivity.</p> | Pass           |
| <p><b>Functional Testing (15 minute Digest)</b><br/>           A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of BstBI incubated for 15 minutes at 65°C results in complete digestion as determined by agarose gel electrophoresis.</p>  | Pass           |
| <p><b>Ligation and Recutting (Terminal Integrity)</b><br/>           After a 20-fold over-digestion of Lambda DNA with BstBI, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments,</p>  | Pass           |

| Assay Name/Specification   | Lot # 10185084     |
|--|--------------------|
| <p>&gt;95% can be recut with BstBI.</p> <p><b>Non-Specific DNase Activity (16 Hour)</b><br/>A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 20 units of BstBI incubated for 16 hours at 65°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> | <p><b>Pass</b></p> |


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

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08 Dec 2022




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24 Apr 2023