

## New England Biolabs Certificate of Analysis

**Product Name:** *BstUI*  
**Catalog Number:** *R0518L*  
**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 rCutSmart Buffer in 1 hour at 60°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10251182*  
**Expiration Date:** *07/2026*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *10 mM Tris-HCl, 50 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)*  
**Specification Version:** *PS-R0518S/L v2.0*

| BstUI Component List |                       |            |                      |
|----------------------|-----------------------|------------|----------------------|
| NEB Part Number      | Component Description | Lot Number | Individual QC Result |
| R0518LVIAL           | BstUI                 | 10249795   | Pass                 |
| B6004SVIAL           | rCutSmart™ Buffer     | 10245415   | Pass                 |

| Assay Name/Specification   | Lot # 10251182 |
|--|----------------|
| <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 BstUI incubated for 4 hours at 60°C releases <0.1% of the total radioactivity. | Pass           |
| <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 BstUI incubated for 15 minutes at 60°C results in complete digestion as determined by agarose gel electrophoresis.   | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>After a 20-fold over-digestion of Lambda DNA with BstUI, ~50% 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 BstUI.  | Pass           |
| <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 100 units of BstUI incubated for 16 hours at 60°C results in a DNA pattern free of  | Pass           |

| Assay Name/Specification  | Lot # 10251182 |
|---|----------------|
| detectable nuclease degradation as determined by agarose gel electrophoresis.   |                |
| <b>Protein Purity Assay (SDS-PAGE)</b><br>BstUI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.   | <b>Pass</b>    |
| <b>qPCR DNA Contamination (E. coli Genomic)</b><br>A minimum of 10 units of BstUI is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is $\leq 1$ E. coli genome. | <b>Pass</b>    |


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

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29 Jul 2024




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05 Aug 2024