

## New England Biolabs Certificate of Analysis

**Product Name:** BsgI  
**Catalog Number:** R0559S  
**Concentration:** 5,000 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 37°C in a total volume of 50 µl.  
**Packaging Lot Number:** 10203103  
**Expiration Date:** 08/2025  
**Storage Temperature:** -20°C  
**Storage Conditions:** 300 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 0.32 mM S-adenosylmethionine (SAM), 50% Glycerol, 500 µg/ml rAlbumin (pH 7.4 @ 25°C)  
**Specification Version:** PS-R0559S/L v3.0

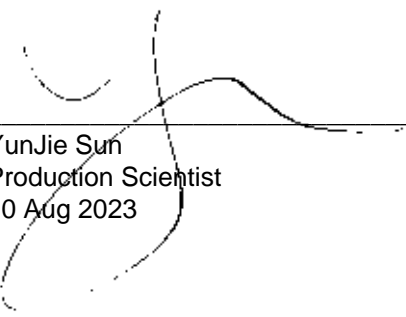
| BsgI Component List |                       |            |                      |
|---------------------|-----------------------|------------|----------------------|
| NEB Part Number     | Component Description | Lot Number | Individual QC Result |
| R0559SVIAL          | BsgI                  | 10201941   | Pass                 |
| B6004SVIAL          | rCutSmart™ Buffer     | 10198641   | Pass                 |

| Assay Name/Specification   | Lot # 10203103 |
|--|----------------|
| <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 50 units of BsgI incubated for 4 hours at 37°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 BsgI incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.  | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>After a 5-fold over-digestion of Lambda DNA with BsgI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, ~75% can be recut with BsgI.   | 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   | Pass           |

| Assay Name/Specification  | Lot # 10203103     |
|---|--------------------|
| <p>15 units of BsgI 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><b>Protein Purity Assay (SDS-PAGE)</b><br/>BsgI is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> | <p><b>Pass</b></p> |


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

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YunJie Sun  
Production Scientist  
10 Aug 2023




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Michael Tonello  
Packaging Quality Control Inspector  
18 Aug 2023