

## New England Biolabs Certificate of Analysis

**Product Name:** BsmBI-v2  
**Catalog Number:** R0739S  
**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 1 hour at 55°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10139896  
**Expiration Date:** 02/2024  
**Storage Temperature:** -20°C  
**Storage Conditions:** 300 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 500 µg/ml BSA, (pH 7.4 @ 25°C)  
**Specification Version:** PS-R0739S/L v1.0

| BsmBI-v2 Component List |                              |            |                      |
|-------------------------|------------------------------|------------|----------------------|
| NEB Part Number         | Component Description        | Lot Number | Individual QC Result |
| R0739SVIAL              | BsmBI-v2                     | 10139895   | Pass                 |
| B7024AVIAL              | Gel Loading Dye, Purple (6X) | 10132772   | Pass                 |
| B6003SVIAL              | NEBuffer™ r3.1               | 10132774   | Pass                 |

| Assay Name/Specification   | Lot # 10139896 |
|--|----------------|
| <b>Protein Purity Assay (SDS-PAGE)</b><br>BsmBI-v2 is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.  | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>After a 10-fold over-digestion of Lambda DNA with BsmBI-v2, >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 BsmBI-v2.                                    | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in NEBuffer 3.1 containing 1 µg of Lambda DNA and a minimum of 10 units of BsmBI-v2 incubated for 16 hours at 55°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass           |
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in NEBuffer 3.1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 units of BsmBI-v2 incubated for 4 hours at 55°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.              | Pass           |

| Assay Name/Specification   | Lot # 10139896 |
|--|----------------|
| <p><b>Exonuclease Activity (Radioactivity Release)</b><br/>A 50 µl reaction in NEBuffer 3.1 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 BsmBI-v2 incubated for 4 hours at 55°C releases &lt;0.1% of the total radioactivity.</p> | <b>Pass</b>    |
| <p><b>Functional Testing (15 minute Digest)</b><br/>A 50 µl reaction in NEBuffer 3.1 containing 1 µg of Lambda DNA and 1 µl of BsmBI-v2 incubated for 15 minutes at 55°C results in complete digestion as determined by agarose gel electrophoresis.</p>   | <b>Pass</b>    |

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

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14 Mar 2022



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14 Mar 2022