

## 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:** 10205254  
**Expiration Date:** 07/2025  
**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

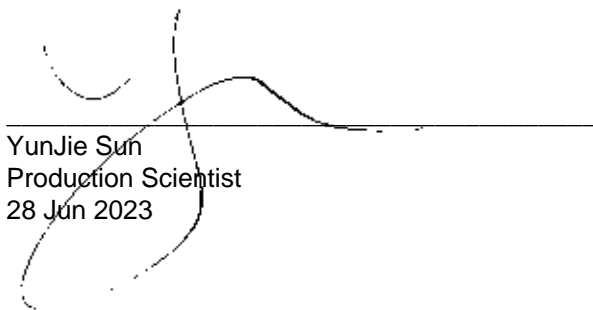
BsmBI-v2 Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0739SVIAL	BsmBI-v2	10195334	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10198639	Pass
B6003SVIAL	NEBuffer™ r3.1	10182164	Pass

Assay Name/Specification	Lot # 10205254
<p><b>Endonuclease Activity (Nicking)</b>            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 &lt;20% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p><b>Exonuclease Activity (Radioactivity Release)</b>            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>	Pass
<p><b>Functional Testing (15 minute Digest)</b>            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>	Pass
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 10-fold over-digestion of Lambda DNA with BsmBI-v2, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated</p>	Pass

Assay Name/Specification	Lot # 10205254
fragments, >95% can be recut with BsmBI-v2.	
<p><b>Non-Specific DNase Activity (16 Hour)</b> 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.</p>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> BsmBI-v2 is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>

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

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Packaging Quality Control Inspector  
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