NEW ENGLAND BioLabs Inc.
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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:	*10137513*
Expiration Date:	*10/2023*
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	10123719	**Pass**
B7024AVIAL	Gel Loading Dye, Purple (6X)	10130600	**Pass**
B6003SVIAL	NEBuffer™ r3.1	10126635	**Pass**

Assay Name/Specification	Lot # 10137513
Protein Purity Assay (SDS-PAGE) BsmBI-v2 is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
Functional Testing (15 minute Digest) 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 55ºC results in complete digestion as determined by agarose gel electrophoresis.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in NEBuffer 3.1 containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 50 units of BsmBI-v2 incubated for 4 hours at 55°C releases <0.1% of the total radioactivity.	**Pass**
Non-Specific DNase Activity (16 Hour) 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 55ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**

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Assay Name/Specification	Lot # 10137513
Ligation and Recutting (Terminal Integrity) 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 16ºC. Of these ligated fragments, >95% can be recut with BsmBI-v2.	**Pass**
Endonuclease Activity (Nicking) 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**

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Penghua Zhang
Production Scientist
21 Jan 2022

Josh Hersey
Packaging Quality Control Inspector
21 Jan 2022