

New England Biolabs Certificate of Analysis

Product Name: BsiEI
Catalog Number: R0554S
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: 10237512
Expiration Date: 04/2026
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-R0554S v3.0

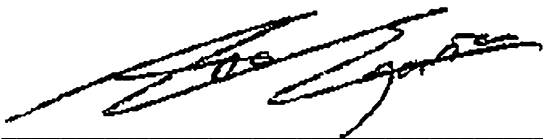
BsiEI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0554SVIAL	BsiEI	10237496	Pass
B6004SVIAL	rCutSmart™ Buffer	10233338	Pass

Assay Name/Specification	Lot # 10237512
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of BsiEI incubated for 4 hours at 60°C releases <0.1% of the total radioactivity.	Pass
Functional Testing (15 minute Digest) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and 1 µl of BsiEI incubated for 15 minutes at 60°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with BsiEI, >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 BsiEI.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 10 units of BsiEI incubated for 16 hours at 60°C results in a DNA pattern free of	Pass

Assay Name/Specification	Lot # 10237512
detectable nuclease degradation as determined by agarose gel electrophoresis.	
Protein Purity Assay (SDS-PAGE) BsiEI is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of BsiEI 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 ≤ 1 E. coli genome.	Pass

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

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Production Scientist
18 Apr 2024



Michael Tonello
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18 Apr 2024