

New England Biolabs Certificate of Analysis

Product Name: BbsI-HF[®]
Catalog Number: R3539S
Concentration: 20,000 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 reaction volume of 50 µl.
Packaging Lot Number: 10159229
Expiration Date: 06/2024
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 rAlbumin, (pH 7.4 @ 25°C)
Specification Version: PS-R3539S/L v3.0

BbsI-HF [®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3539SVIAL	BbsI-HF [®]	10152588	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10156431	Pass
B6004SVIAL	rCutSmart [™] Buffer	10156433	Pass

Assay Name/Specification	Lot # 10159229
RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 20 units of BbsI-HF [®] is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda DNA with BbsI-HF [®] , >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 BbsI-HF [®] .	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart [™] Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of BbsI-HF [®] incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
qPCR DNA Contamination (E. coli Genomic)	Pass

Assay Name/Specification	Lot # 10159229
<p>A minimum of 20 units of BbsI-HF[®] 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.</p>	
<p>Functional Testing (15 minute Digest) A 50 μl reaction in rCutSmart[™] Buffer containing 1 μg of Lambda DNA and 1 μl of BbsI-HF[®] incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 μl reaction in rCutSmart[™] Buffer containing 1 μg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of BbsI-HF[®] incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Endonuclease Activity (Nicking) A 50 μl reaction in rCutSmart[™] Buffer containing 1 μg of supercoiled pUC19 DNA and a minimum of 60 units of BbsI-HF[®] incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) BbsI-HF[®] is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass

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

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01 Sep 2022



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