

New England Biolabs Certificate of Analysis

Product Name: BsiWI-HF[®]
Catalog Number: R3553S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of PhiX174 DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10056220
Expiration Date: 07/2021
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-R3553S/L v1.0

BsiWI-HF [®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3553SVIAL	BsiWI-HF [®]	10049336	Pass
B7204SVIAL	CutSmart [®] Buffer	10053982	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10046085	Pass

Assay Name/Specification	Lot # 10056220
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart [®] Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 20 units of BsiWI-HF incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart [®] Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of BsiWI-HF incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Functional Testing (15 minute Digest) A 50 µl reaction in CutSmart [®] Buffer containing 1 µg of PhiX174 DNA and 1 µl of BsiWI-HF incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of PhiX174 DNA with BsiWI-HF, >95% of the DNA	Pass

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fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with BsiWI-HF.	
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart® Buffer containing 1 µg of PhiX174 DNA and a minimum of 100 units of BsiWI-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
Protein Purity Assay (SDS-PAGE) BsiWI-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass

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



Stephanie Cornelio
Production Scientist
16 Jul 2019



Jay Minichiello
Packaging Quality Control Inspector
13 Nov 2019