

New England Biolabs Certificate of Analysis

Product Name: BstZ171-HF®
Catalog Number: R3594S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10126518
Expiration Date: 10/2023
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl , 50 mM KCl , 1 mM DTT , 0.1 mM EDTA , 200 µg/ml BSA , 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-R3594S/L v2.0

BstZ171-HF® Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3594SVIAL	BstZ171-HF®	10126516	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10126634	Pass
B6004SVIAL	rCutSmart™ Buffer	10124441	Pass

Assay Name/Specification	Lot # 10126518
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda DNA with BstZ171-HF, ~75% 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 BstZ171-HF.	Pass
Functional Testing (15 minute Digest) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and 1 µl of BstZ171-HF incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and a minimum of 100 units of BstZ171-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
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of BstZ171-HF incubated for 4 hours at 37°C results in <20%	Pass

Assay Name/Specification	Lot # 10126518
conversion to the nicked form as determined by agarose gel electrophoresis.	
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of BstZ171-HF incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) BstZ171-HF is ≥ 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.

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.



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03 Nov 2021



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Packaging Quality Control Inspector
03 Nov 2021