

New England Biolabs Certificate of Analysis

Product Name: BstZ171-HF[®]
Catalog Number: R3594L
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.
Lot Number: 10026276
Expiration Date: 10/2020
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
R3594LVIAL	BstZ171-HF [®]	10026277	Pass
B7204SVIAL	CutSmart [®] Buffer	10031565	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10021135	Pass

Assay Name/Specification	Lot # 10026276
Protein Purity Assay (SDS-PAGE) BstZ171-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	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% 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 BstZ171-HF incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass

Assay Name/Specification	Lot # 10026276
<p>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.</p>	Pass
<p>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.</p>	Pass

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



Stephanie Cornelio
Production Scientist
25 Oct 2018



Michael Tonello
Packaging Quality Control Inspector
14 Jan 2019