

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.
Lot Number: 10026278
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
R3594SVIAL	BstZ171-HF®	10026279	Pass
B7204SVIAL	CutSmart® Buffer	10021116	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10018417	Pass

Assay Name/Specification	Lot # 10026278
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
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	Pass

Assay Name/Specification	Lot # 10026278
determined by agarose gel electrophoresis.	
<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
<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.



Tony Spear-Alfonso
Production Scientist
17 Sep 2018



Michael Tonello
Packaging Quality Control Inspector
26 Oct 2018