

New England Biolabs Certificate of Analysis

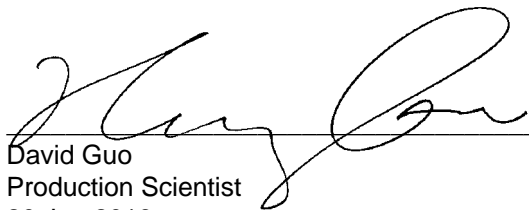
Product Name: BstZ171-HF®
Catalog Number: R3594S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Lot Number: 10045337
Expiration Date: 06/2021
Storage Temperature: -20°C
Storage 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®	10045338	Pass
B7204SVIAL	CutSmart® Buffer	10047860	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10043349	Pass

Assay Name/Specification	Lot # 10045337
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 # 10045337
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.



David Guo
Production Scientist
20 Jun 2019



Michael Tonello
Packaging Quality Control Inspector
24 Jul 2019