

New England Biolabs Certificate of Analysis

Product Name: BstZ171-HF[®]
Catalog #: R3594S/L
Concentration: 20,000 units/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 #: 0011804
Assay Date: 04/2018
Expiration Date: 4/2020
Storage Temp: -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
Effective Date: 01 Dec 2016

Assay Name/Specification (minimum release criteria)	Lot #0011804
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] <i>E. coli</i> 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 determined by agarose gel electrophoresis.	Pass
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
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
Protein Purity Assay (SDS-PAGE) - BstZ171-HF is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass



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* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.



Authorized by
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01 Dec 2016



Inspected by
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09 Apr 2018

