

New England Biolabs Certificate of Analysis

Product Name: Bsal-HF@v2
Catalog Number: R3733L
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of pXba DNA in rCutSmart Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10169584
Expiration Date: 08/2024
Storage Temperature: -20°C
Storage Conditions: 20mM Tris-HCl, 300mM NaCl, 0.1mM TCEP, 200 µg/ml rAlbumin, 50% Glycerol, (pH 9.0 @ 25°C)
Specification Version: PS-R3733S/L v2.0

| Bsal-HF@v2 Component List | | | |
|---------------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R3733LVIAL | Bsal-HF@v2 | 10156846 | Pass |
| B7024AVIAL | Gel Loading Dye, Purple (6X) | 10162784 | Pass |
| B6004SVIAL | rCutSmart™ Buffer | 10156428 | Pass |

| Assay Name/Specification | Lot # 10169584 |
|--|----------------|
| Endonuclease Activity (Nicking) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of Bsal-HF@v2 incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis. | Pass |
| RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 20 units of Bsal-HF@v2 is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | Pass |
| Non-Specific DNase Activity (16 Hour) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 60 units of Bsal-HF@v2 incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass |
| Functional Testing (15 minute Digest) | Pass |

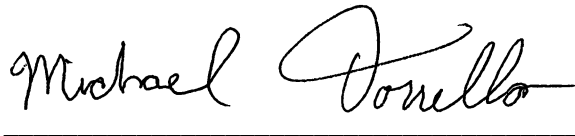
| Assay Name/Specification | Lot # 10169584 |
|---|----------------|
| <p>A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of pXba DNA and 1 µl of Bsal-HF@v2 incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.</p> | |
| <p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of Bsal-HF@v2 incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p> | Pass |
| <p>qPCR DNA Contamination (E. coli Genomic) A minimum of 20 units of Bsal-HF@v2 is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.</p> | Pass |
| <p>Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of pXba DNA with Bsal-HF@v2, >95% 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 Bsal-HF@v2.</p> | Pass |
| <p>Protein Purity Assay (SDS-PAGE) Bsal-HF@v2 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.

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14 Jul 2022



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09 Nov 2022