

New England Biolabs Certificate of Analysis

Product Name: BgIII
Catalog Number: R0144S
Concentration: 10,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in NEBuffer r3.1 in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10173531
Expiration Date: 08/2024
Storage Temperature: -20°C
Storage Conditions: 50 mM TES, 500 mM NaCl, 200 µg/ml rAlbumin, 50% Glycerol, (pH 8.0 @ 25°C)
Specification Version: PS-R0144S/L/E v3.0

| BgIII Component List | | | |
|----------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R0144SVIAL | BgIII | 10159523 | Pass |
| B7024AVIAL | Gel Loading Dye, Purple (6X) | 10168649 | Pass |
| B6003SVIAL | NEBuffer™ r3.1 | 10168652 | Pass |

| Assay Name/Specification | Lot # 10173531 |
|--|----------------|
| Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of Lambda DNA with BgIII, >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 BgIII. | Pass |
| Blue-White Screening (Terminal Integrity) A sample of LITMUS28i vector linearized with a 10-fold excess of BgIII, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies. | Pass |
| Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 units of BgIII incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | Pass |
| Exonuclease Activity (Radioactivity Release) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of a mixture of single and | Pass |

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|---|----------------|
| <p>double-stranded [³H] E. coli DNA and a minimum of 100 units of BglIII incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p> | |
| <p>Functional Testing (15 minute Digest) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of Lambda DNA and 1 µl of BglIII incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.</p> | Pass |
| <p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of Lambda DNA and a minimum of 100 units of BglIII incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> | Pass |
| <p>qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of BglIII 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>Protein Purity Assay (SDS-PAGE) BglIII 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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Production Scientist
02 Aug 2022


Michael Tonello
Packaging Quality Control Inspector
12 Dec 2022