

New England Biolabs Certificate of Analysis

Product Name: *BspQI*
Catalog Number: *R0712S*
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 50°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10254242*
Expiration Date: *08/2026*
Storage Temperature: *-20°C*
Storage Conditions: *10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)*
Specification Version: *PS-R0712S/L v3.0*

BspQI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0712SVIAL	BspQI	10249944	Pass
B6003SVIAL	NEBuffer™ r3.1	10244283	Pass

Assay Name/Specification	Lot # 10254242
<p>Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of supercoiled LITMUS38i DNA and a minimum of 10 units of BspQI incubated for 4 hours at 50°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 50 units of BspQI incubated for 4 hours at 50°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Functional Testing (15 minute Digest) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of Lambda DNA and 1 µl of BspQI incubated for 15 minutes at 50°C results in complete digestion as determined by agarose gel electrophoresis.</p>	Pass
<p>Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with BspQI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments,</p>	Pass


Assay Name/Specification	Lot # 10254242
<p>>95% can be recut with BspQI.</p> <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 10 units of BspQI incubated for 16 hours at 50°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE: although no nuclease degradation is detected under these conditions, extended incubations and/or high concentrations of this enzyme may result in star activity. See the product FAQ for recommended reaction conditions for this enzyme.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) BspQI is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>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 10 units of BspQI 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.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of BspQI 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

This product has been tested and shown to be in compliance with all specifications.

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17 Sep 2024



Michael Tonello
Packaging Quality Control Inspector
18 Sep 2024