

New England Biolabs Product Specification

<i>Product Name:</i>	<i>BspQI</i>
<i>Catalog #:</i>	<i>R0712S/L</i>
<i>Concentration:</i>	<i>10,000 units/ml</i>
<i>Unit Definition:</i>	<i>One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 50°C in a total reaction volume of 50 µl.</i>
<i>Shelf Life:</i>	<i>24 months</i>
<i>Storage Temp:</i>	<i>-20°C</i>
<i>Storage Conditions:</i>	<i>500 mM KCl , 20 mM Tris-HCl (pH 7.0), 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , 0.10 % TritonX-100 , 500 µg/ml BSA</i>
<i>Specification Version:</i>	<i>PS-R0712S/L v2.0</i>
<i>Effective Date:</i>	<i>30 Oct 2015</i>

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 3.1 containing 1 µg of supercoiled M13mp18 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.

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in NEBuffer 3.1 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.

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, >95% can be recut with BspQI.

Non-Specific DNase Activity (16 hour) - A 50 µl reaction in NEBuffer 3.1 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.

Protein Purity Assay (SDS-PAGE) - BspQI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.

* 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.



Date 30 Oct 2015

Derek Robinson
Director of Quality Control

