NEW ENGLAND Biolabs®

New England Biolabs
Product Specification

Product Name:	*BtgZI*
Catalog #:	*R0703S/L/V*
Concentration:	*5,000 units/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 1 μg of Lambda DNA in 1 hour at 60°C in a total reaction volume of 50 μl.*
Shelf Life:	*24 months*
Storage Temp:	*-20°C*
Storage Conditions:	*50 mM KCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 μg/ml BSA*
Specification Version:	*PS-R0703S/L v1.0*
Effective Date:	*06/07/2013*

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 μl reaction in CutSmart™ Buffer containing 1 μg of supercoiled pUC19 DNA and a minimum of 5 Units of BtgZI incubated for 4 hours at 60°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Exonuclease Activity (Radioactivity Release) - A 50 μl reaction in CutSmart™ Buffer containing 1 μg of a mixture of single and double-stranded [^{3}H] *E. coli* DNA and a minimum of 5 units of BtgZI incubated for 4 hours at 60°C releases <0.1% of the total radioactivity.

Ligation and Recutting (Terminal Integrity) - After a 5-fold over-digestion of Lambda DNA with BtgZI, ~75% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, ~75% can be recut with BtgZI.

Non-Specific DNase Activity (16 Hour) - A 50 μl reaction in CutSmart™ Buffer containing 1 μg of Lambda DNA and a minimum of 5 Units of BtgZI incubated for 16 hours at 60°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Derek Robinson
Quality Approver

Date   06/07/2013

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