NEW ENGLAND BioLabs Inc.

240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

# New England Biolabs
# Certificate of Analysis

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|---|---|
| *Product Name:* | *BsiWI* |
| *Catalog #:* | *R0553S/L* |
| *Concentration:* | *10,000 units/ml* |
| *Unit Definition:* | *One unit is defined as the amount of enzyme required to digest 1 µg of PhiX174 DNA in 1 hour at 55°C in a total reaction volumn of 50 µl.* |
| *Lot #:* | *0341512* |
| *Assay Date:* | *12/2015* |
| *Expiration Date:* | *12/2017* |
| *Storage Temp:* | *-20°C* |
| *Storage Buffer:* | *300 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 500 µg/ml BSA* |
| *Specification Version:* | *PS-R0553S/L v1.0* |
| *Effective Date:* | *28 Oct 2014* |

| **Assay Name/Specification** (minimum release criteria) | **Lot #0341512** |
|---|---|
| **Endonuclease Activity (Nicking) -** A 50 µl reaction in NEBuffer 3.1 containing 1 µg of supercoiled pUC19 DNA and a minimum of 10 Units of BsiWI incubated for 4 hours at 55°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 3.1 containing 1 µg of a mixture of single and double-stranded [ $^{3}$H] *E. coli* DNA and a minimum of 20 units of BsiWI incubated for 4 hours at 55°C releases <0.1% of the total radioactivity. | **Pass** |
| **Ligation and Recutting (Terminal Integrity) -** After a 10-fold over-digestion of PhiX174 DNA with BsiWI, >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 BsiWI. | **Pass** |
| **Non-Specific DNase Activity (16 Hour) -** A 50 µl reaction in NEBuffer 3.1 containing 1 µg of PhiX174 DNA and a minimum of 10 Units of BsiWI incubated for 16 hours at 55°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |

Authorized by
Derek Robinson
28 Oct 2014

Inspected by
Jianying Luo
18 Dec 2015

nqa ISO 9001 Registered Quality Management
nqa ISO 14001 Registered Environmental Management
nqa ISO 13485 Registered Medical Devices