NEW ENGLAND BioLabs Inc.
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# New England Biolabs
# Certificate of Analysis

| | |
|---|---|
| *Product Name:* | *NEBuffer™ 1* |
| *Catalog Number:* | *B7001S* |
| *Concentration:* | *10 X Concentrate* |
| *Lot Number:* | *10044693* |
| *Expiration Date:* | *04/2022* |
| *Storage Temperature:* | *-20°C* |
| *Specification Version:* | *PS-B7001S v1.0* |
| *Composition (1X):* | *10 mM Bis-Tris-Propane-HCl, 10 mM MgCl2, 1 mM DTT, (pH 7.0 @ 25°C)* |

**NEBuffer™ 1 Component List**

| NEB Part Number | Component Description | Lot Number | Individual QC Result |
|---|---|---|---|
| B7001SVIAL | NEBuffer™ 1 | 10041625 | **Pass** |

| Assay Name/Specification | Lot # 10044693 |
|---|---|
| **Conductivity (buffers/solutions)**<br>The conductivity of 10X NEBuffer 1 is between 20 and 30 mS at 25°C. | **Pass** |
| **Endonuclease Activity (Nicking, Buffer)**<br>A 50 µl reaction in 1X NEBuffer 1 containing 1 µg of supercoiled PhiX174 RF I DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |
| **Functional Testing (Restriction Digest, BSA, Buffer)**<br>A 50 µl reaction in 1X NEBuffer 1 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda-HindIII DNA and 1 unit of SacI incubated for 1 hour at 37ºC results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis. | **Pass** |
| **Functional Testing (Restriction Digest, BSA, Buffer)**<br>A 50 µl reaction in 1X NEBuffer 1 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of pXba DNA and 1 unit of KpnI incubated for 1 hour at 37ºC results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis. | **Pass** |
| **Non-Specific DNase Activity (16 hour, Buffer)**<br>A 50 µl reaction in 1X NEBuffer 1 containing 1 µg of HaeIII digested PhiX174 RF I DNA incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |

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| Assay Name/Specification | Lot # 10044693 |
|---|---|
| **pH (buffers/solutions)**<br>The pH of 10X NEBuffer 1 is between pH 6.9 and 7.1 at 25°C. | **Pass** |
| **RNase Activity (Buffer)**<br>A 10 µl reaction in 1X NEBuffer 1 containing 40 ng of a 300 base single-stranded RNA is incubated at 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by fluorescent detection. | **Pass** |

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

Doreen Duquette
Production Scientist
17 Apr 2019

Michael Tonello
Packaging Quality Control Inspector
02 May 2019