

## New England Biolabs Certificate of Analysis

**Product Name:** NEBuffer™ 4  
**Catalog Number:** B7004S  
**Concentration:** 10 X Concentrate  
**Packaging Lot Number:** 10071122  
**Expiration Date:** 12/2022  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B7004S v1.0  
**Composition (1X):** 50 mM Potassium Acetate, 20 mM Tris-acetate, 10 mM Magnesium Acetate, 1 mM DTT, (pH 7.9 @ 25°C)

| NEBuffer™ 4 Component List |                       |            |                      |
|----------------------------|-----------------------|------------|----------------------|
| NEB Part Number            | Component Description | Lot Number | Individual QC Result |
| B7004SVIAL                 | NEBuffer™ 4           | 10061301   | Pass                 |

| Assay Name/Specification   | Lot # 10071122 |
|--|----------------|
| <b>Conductivity (buffers/solutions)</b><br>The conductivity of 10X NEBuffer 4 is between 36 and 54 mS at 25°C.   | Pass           |
| <b>Endonuclease Activity (Nicking, Buffer)</b><br>A 50 µl reaction in 1X NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.   | Pass           |
| <b>Functional Testing (Restriction Digest, BSA, Buffer)</b><br>A 50 µl reaction in 1X NEBuffer 4 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda DNA and 1 unit of MscI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.      | Pass           |
| <b>Functional Testing (Restriction Digest, BSA, Buffer)</b><br>A 50 µl reaction in 1X NEBuffer 4 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda dam- DNA and 1 unit of ClaI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis. | Pass           |
| <b>Non-Specific DNase Activity (16 hour, Buffer)</b><br>A 50 µl reaction in 1X NEBuffer 4 containing 1 µg of PhiX174-HaeIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease  | Pass           |

| Assay Name/Specification  | Lot # 10071122 |
|---|----------------|
| degradation as determined by agarose gel electrophoresis.   |                |
| <p><b>pH (buffers/solutions)</b><br/>The pH of 10X NEBuffer 4 is between pH 7.8 and 8.0 at 25°C.</p>  | <b>Pass</b>    |
| <p><b>RNase Activity (Buffer)</b><br/>A 10 µl reaction in 1X NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by fluorescent detection.</p> | <b>Pass</b>    |

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



Michael Dalton  
Production Scientist  
22 Apr 2020



Jay Minichiello  
Packaging Quality Control Inspector  
22 Apr 2020