

## New England Biolabs Certificate of Analysis

**Product Name:** NEBuffer™ 4  
**Catalog Number:** B7004S  
**Concentration:** 10 X Concentrate  
**Packaging Lot Number:** 10144165  
**Expiration Date:** 01/2025  
**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	10133928	Pass

Assay Name/Specification	Lot # 10144165
<b>RNase Activity (Buffer)</b> 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, >90% of the substrate RNA remains intact as determined by fluorescent detection.	Pass
<b>pH (buffers/solutions)</b> The pH of 10X NEBuffer 4 is between pH 7.8 and 8.0 at 25°C.	Pass
<b>Non-Specific DNase Activity (16 hour, Buffer)</b> 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 degradation as determined by agarose gel electrophoresis.	Pass
<b>Functional Testing (Restriction Digest, BSA, Buffer)</b> 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>Functional Testing (Restriction Digest, BSA, Buffer)</b> 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	Pass

Assay Name/Specification	Lot # 10144165
digestion of the substrate DNA as determined by agarose gel electrophoresis.	
<p><b>Endonuclease Activity (Nicking, Buffer)</b> A 50 µl reaction in 1X NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Conductivity (buffers/solutions)</b> The conductivity of 10X NEBuffer 4 is between 36 and 54 mS at 25°C.</p>	<b>Pass</b>

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

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Ben Penta  
Production Scientist  
22 Mar 2022



Josh Hersey  
Packaging Quality Control Inspector  
22 Mar 2022