

## New England Biolabs Certificate of Analysis

**Product Name:** NEBuffer™ 1  
**Catalog Number:** B7001S  
**Concentration:** 10 X Concentrate  
**Packaging Lot Number:** 10262281  
**Expiration Date:** 09/2027  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B7001S v1.0  
**Composition (1X):** 10 mM Bis-Tris-Propane-HCl, 10 mM MgCl<sub>2</sub>, 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	10257664	Pass

Assay Name/Specification	Lot # 10262281
<b>Conductivity (buffers/solutions)</b> The conductivity of 10X NEBuffer 1 is between 20 and 30 mS at 25°C.	Pass
<b>Endonuclease Activity (Nicking, Buffer)</b> 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
<b>Functional Testing (Restriction Digest, BSA, Buffer)</b> 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 SmaI 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 1 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of pXba DNA and 1 unit of KpnI 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> A 50 µl reaction in 1X NEBuffer 1 containing 1 µg of HaeIII digested PhiX174 RF I 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

Assay Name/Specification	Lot # 10262281
<p><b>RNase Activity (Buffer)</b> A 10 µl reaction in 1X NEBuffer 1 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>
<p><b>pH (buffers/solutions)</b> The pH of 10X NEBuffer 1 is between pH 6.9 and 7.1 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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Nancy Considine  
Production Scientist  
03 Oct 2024



Talia Monkiewicz  
Packaging Quality Control Inspector  
11 Nov 2024