

## New England Biolabs Certificate of Analysis

**Product Name:** NEBuffer™ r3.1  
**Catalog Number:** B6003S  
**Concentration:** 10 X Concentrate  
**Packaging Lot Number:** 10215721  
**Expiration Date:** 03/2026  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B6003S v1.0  
**Composition (1X):** 50 mM Tris-HCl, 100 mM NaCl, 10 mM MgCl<sub>2</sub>, 100 µg/ml rAlbumin, (pH 7.9 @ 25°C)

NEBuffer™ r3.1 Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
B6003SVIAL	NEBuffer™ r3.1	10182165	Pass

Assay Name/Specification	Lot # 10215721
<b>Conductivity (buffers/solutions)</b> The conductivity of 10X NEBuffer™ r3.1 is between 84 and 101 mS/cm at 25°C.	Pass
<b>Endonuclease Activity (Nicking, Buffer)</b> A 50 µl reaction in 1X NEBuffer™ r3.1 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, Buffer)</b> A 50 µl reaction in 1X NEBuffer™ r3.1 containing 1 µg of pBC4 DNA and 1 unit of NotI 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, Buffer)</b> A 50 µl reaction in 1X NEBuffer™ r3.1 containing 1 µg of Lambda DNA and 1 unit of AseI 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™ r3.1 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

Assay Name/Specification	Lot # 10215721
<p><b>RNase Activity (Buffer)</b> A 10 µl reaction in 1X NEBuffer™ r3.1 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 gel electrophoresis using fluorescent detection.</p>	<b>Pass</b>
<p><b>pH (buffers/solutions)</b> The pH of 10X NEBuffer™ r3.1 is between pH 7.8 and 8.0 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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Production Scientist  
28 Mar 2023



Michael Tonello  
Packaging Quality Control Inspector  
20 Nov 2023