

New England Biolabs Certificate of Analysis

Product Name: NEBuffer™ 4
Catalog Number: B7004S
Concentration: 10 X Concentrate
Packaging Lot Number: 10232033
Expiration Date: 01/2027
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	10225682	Pass

Assay Name/Specification	Lot # 10232033
Conductivity (buffers/solutions) The conductivity of 10X NEBuffer 4 is between 36 and 54 mS at 25°C.	Pass
Endonuclease Activity (Nicking, Buffer) 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
Functional Testing (Restriction Digest, BSA, Buffer) 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
Functional Testing (Restriction Digest, BSA, Buffer) 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
Non-Specific DNase Activity (16 hour, Buffer) 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 # 10232033
degradation as determined by agarose gel electrophoresis.	
<p>RNase Activity (Buffer) 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.</p>	Pass
<p>pH (buffers/solutions) The pH of 10X NEBuffer 4 is between pH 7.8 and 8.0 at 25°C.</p>	Pass

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

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Scott Schallehn
Production Scientist
22 Feb 2024



Josh Hersey
Packaging Quality Control Inspector
04 Mar 2024