NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*NEBuffer™ 4*
Catalog Number:	*B7004S*
Concentration:	*10 X Concentrate*
Packaging Lot Number:	*10074978*
Expiration Date:	*05/2023*
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	10074983	**Pass**

Assay Name/Specification	**Lot # 10074978**
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 37ºC 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 37ºC 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 37ºC results in a DNA pattern free of detectable nuclease	**Pass**

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Assay Name/Specification	Lot # 10074978
degradation as determined by agarose gel electrophoresis.	
pH (buffers/solutions) The pH of 10X NEBuffer 4 is between pH 7.8 and 8.0 at 25°C.	**Pass**
RNase Activity (Buffer) A 10 µl reaction in 1X NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA is incubated at 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by fluorescent detection.	**Pass**

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

Michael Dalton
Production Scientist
12 May 2020

Jay Minichiello
Packaging Quality Control Inspector
12 May 2020