

240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

## New England Biolabs Certificate of Analysis

Product Name: Standard Taq Reaction Buffer Pack

Catalog Number: B9014S

Concentration: 10 X Concentrate

Packaging Lot Number: 10061093
Expiration Date: 04/2022
Storage Temperature: -20°C

Specification Version: PS-B9014S v1.0

Composition (1X): 10 mM Tris-HCl, 50 mM KCl, 1.5 mM MgCl2, (pH 8.3 @ 25°C)

Standard Taq Reaction Buffer Pack Component List				
<b>NEB Part Number</b>	Component Description	Lot Number	Individual QC Result	
B9021SVIAL	Magnesium Chloride (MgCl <sub>2</sub> ) Solution	10054951	Pass	
B9014SVIAL	Standard Taq Reaction Buffer Pack	10049383	Pass	

Assay Name/Specification	Lot # 10061093
Endonuclease Activity (Nicking, Buffer) A 50 μl reaction in 2X Standard Taq Reaction Buffer 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
Non-Specific DNase Activity (16 hour, Buffer) A 50 µl reaction in 2X Standard Taq Reaction Buffer containing 1 µg of T3 DNA in addition to a reaction containing Lambda-HindIII 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
PCR Amplification (5 kb Lambda DNA, Buffer) A 50 μl reaction in Standard Taq Reaction Buffer in the presence of 200 μM dNTPs and 0.2 μM primers containing 5 ng Lambda DNA with 1.25 units of Taq DNA Polymerase for 25 cycles of PCR amplification results in the expected 5 kb product.	Pass
pH (buffers/solutions) The pH of 10X Standard Taq Reaction Buffer is between pH 8.2 and 8.4 at 25°C.	Pass
Phosphatase Activity (pNPP, Buffer) A 200 µl reaction in 1M Diethanolamine @ pH 9.8 and 0.5 mM MgCl2 containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 40 µl Standard Taq Reaction Buffer	Pass



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Assay Name/Specification	Lot # 10061093
incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	
<b>qPCR DNA Contamination (E. coli Genomic, Buffer)</b> A minimum of 1 μl of Standard Taq Reaction Buffer is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.	Pass
RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Standard Taq Reaction Buffer is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	Pass

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

Christie Vazquez Production Scientist 10 Sep 2019

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NEW ENGLAND

Michael Tonello

Packaging Quality Control Inspector

18 Dec 2019



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