

New England Biolabs Certificate of Analysis

Product Name: Standard Taq Reaction Buffer Pack
Catalog #: B9014S
Concentration: 10X Concentrate
Lot #: 0021603
Assay Date: 03/2016
Expiration Date: 03/2021
Storage Temp: -20°C
Composition (1X): 10 mM Tris-HCl, 50 mM KCl, 1.5 mM MgCl₂, (pH 8.3 @ 25°C)
Specification Version: PS-B9014S v1.0
Effective Date: 10 Feb 2017

Assay Name/Specification (minimum release criteria)	Lot #0021603
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 MgCl ₂ containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 40 µl Standard Taq Reaction Buffer incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
qPCR DNA Contamination (E. coli Genomic, Buffer) - 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



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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 <i>Taq</i> 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



Authorized by
Karen Moreira
10 Feb 2017



Inspected by
Tony Spear-Alfonso
29 Nov 2017

