

New England Biolabs Certificate of Analysis

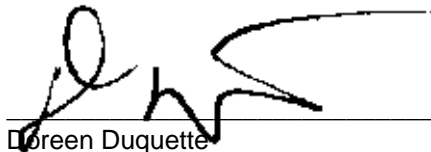
Product Name: Standard Taq (Mg-free) Reaction Buffer Pack
 Catalog Number: B9015S
 Concentration: 10 X Concentrate
 Lot Number: 10049946
 Expiration Date: 05/2022
 Storage Temperature: -20°C
 Specification Version: PS-B9015S v1.0
 Composition (1X): 10 mM Tris-HCl, 50 mM KCl, (pH 8.3 @ 25°C)

Standard Taq (Mg-free) Reaction Buffer Pack Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
B9021SVIAL	Magnesium Chloride (MgCl ₂) Solution	10038440	Pass
B9015SVIAL	Standard Taq (Mg-free) Reaction Buffer Pack	10033771	Pass

Assay Name/Specification	Lot # 10049946
Endonuclease Activity (Nicking, Mg-Free Buffer) A 50 µl reaction in 2X Standard Taq (Mg-free) Reaction Buffer and 3 mM MgCl ₂ 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, Mg-Free Buffer) A 50 µl reaction in 2X Standard Taq (Mg-free) Reaction Buffer and 3 mM MgCl ₂ 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, Mg-Free Buffer) A 50 µl reaction in Standard Taq (Mg-free) Reaction Buffer and 1.5 mM MgCl ₂ 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 (Mg-free) Reaction Buffer is between pH 8.2 and 8.4 at 25°C.	Pass
Phosphatase Activity (pNPP, Buffer)	Pass

Assay Name/Specification	Lot # 10049946
<p>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 (Mg-free) Reaction Buffer incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p>	
<p>qPCR DNA Contamination (E. coli Genomic, Buffer) A minimum of 1 µl of Standard Taq (Mg-free) 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.</p>	Pass
<p>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 (Mg-free) 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.</p>	Pass

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



Doreen Duquette
Production Scientist
05 Feb 2019



Michael Tonello
Packaging Quality Control Inspector
15 Jul 2019