

New England Biolabs Certificate of Analysis

Product Name: Q5[®] Reaction Buffer Pack
Catalog Number: B9027S
Concentration: 5 X Concentrate
Packaging Lot Number: 10107122
Expiration Date: 01/2024
Storage Temperature: -20°C
Specification Version: PS-B9027S v2.0
Composition (1X): Proprietary

| Q5 [®] Reaction Buffer Pack Component List | | | |
|-----------------------------------------------------|--------------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| B9028AVIAL | Q5 [®] High GC Enhancer | 10099070 | Pass |
| B9027SVIAL | Q5 [®] Reaction Buffer Pack | 10092732 | Pass |

| Assay Name/Specification | Lot # 10107122 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <p>Non-Specific DNase Activity (16 hour, Buffer) A 50 µl reaction in 2X Q5[®] Reaction Buffer containing 1 µg of T3 or T7 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.</p> | Pass |
| <p>Endonuclease Activity (Nicking, Buffer) A 50 µl reaction in 2X Q5[®] 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.</p> | Pass |
| <p>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 80 µl Q5[®] Reaction Buffer incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p> | Pass |
| <p>RNase Activity Assay (4 Hour 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 Q5[®] Reaction Buffer is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p> | Pass |

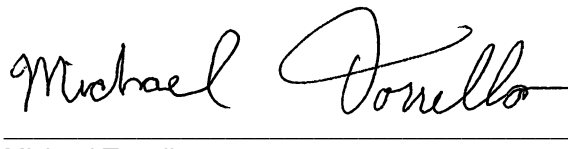
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| <p>qPCR DNA Contamination (E. coli Genomic, Buffer) A minimum of 1 µl of Q5[®] Reaction Buffer is screened for the presence of E. coli genomic DNA using SYBR[®] Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified 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>PCR Amplification (20 kb Lambda DNA, Buffer) A 50 µl reaction in Q5[®] Reaction Buffer in the presence of 200 µM dNTPs and 1 µM primers containing 10 ng Lambda DNA with 1 unit of Q5[®] High-Fidelity DNA Polymerase for 22 cycles of PCR amplification results in the expected 20 kb product.</p> | Pass |
| <p>PCR Amplification (7 kb Human Genomic DNA, Buffer) A 50 µl reaction in Q5[®] Reaction Buffer in the presence of 200 µM dNTPs and 0.5 µM primers containing 20 ng Human Genomic DNA with 1 unit of Q5[®] High-Fidelity DNA Polymerase for 30 cycles of PCR amplification results in the expected 7 kb product.</p> | Pass |

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

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22 Apr 2021



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22 Apr 2021