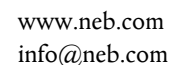


New England Biolabs Certificate of Analysis

Product Name: LongAmp[®] Taq Reaction Buffer Pack
Catalog #: B0323S
Concentration: 5X Concentrate
Lot #: 0031706
Assay Date: 06/2017
Expiration Date: 6/2020
Storage Temp: -20°C
Composition (1X): 60 mM Tris-SO₄, 20 mM (NH₄)₂SO₄, 2 mM MgSO₄, 3 % Glycerol, 0.06 % IGEPAL[®] CA-630, 0.05 % Tween[®] 20, (pH 9.1 @ 25°C)
Specification Version: PS-B0323S v1.0
Effective Date: 10 May 2017

Assay Name/Specification (minimum release criteria)	Lot #0031706
Endonuclease Activity (Nicking, Buffer) - A 50 µl reaction in 2X LongAmp [®] 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 LongAmp [®] 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 (30 kb Human Genomic DNA, Buffer) - A 25 µl reaction in 1X LongAmp [®] Taq Reaction Buffer in the presence of 300 µM dNTPs and 0.4 µM primers containing 500 ng Human Genomic DNA with 2.5 units of LongAmp [®] Taq DNA Polymerase for 28 cycles of PCR amplification results in the expected 30 kb product.	Pass
PCR Amplification (30 kb Lambda DNA, Buffer) - A 25 µl reaction in 1X LongAmp [®] Taq Reaction Buffer in the presence of 300 µM dNTPs and 0.4 µM primers containing 1 ng Lambda DNA with 2.5 units of LongAmp [®] Taq DNA Polymerase for 28 cycles of PCR amplification results in the expected 30 kb product.	Pass
pH (buffers/solutions) - The pH of 5X LongAmp [®] Taq Reaction Buffer is between pH 9.0 and 9.2 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 80 µl LongAmp [®] Taq Reaction Buffer incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass



B0323S Lot: 0031706
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