

New England Biolabs Certificate of Analysis

Product Name: *Φ29 DNA Polymerase Reaction Buffer*
Catalog #: B0269S
Concentration: 10X Concentrate
Lot #: 0021706
Assay Date: 06/2017
Expiration Date: 6/2022
Storage Temp: -20°C
Composition (1X): 50 mM Tris-HCl, 10 mM MgCl₂, 10 mM (NH₄)₂SO₄, 4 mM DTT, (pH 7.5 @ 25°C)
Specification Version: PS-B0269S v1.0
Effective Date: 10 May 2017

Assay Name/Specification (minimum release criteria)	Lot #0021706
Endonuclease Activity (Nicking, Buffer) - A 50 µl reaction in 2X phi29 DNA Polymerase 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 phi29 DNA Polymerase 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
pH (buffers/solutions) - The pH of 10X phi29 DNA Polymerase Reaction Buffer is between pH 7.4 and 7.6 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 <i>p</i> -Nitrophenyl Phosphate (pNPP) and a minimum of 40 µl phi29 DNA Polymerase 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 (<i>E. coli</i> Genomic) - A minimum of 1 µl of phi29 DNA Polymerase Reaction Buffer is screened for the presence of <i>E. coli</i> genomic DNA using SYBR® Green qPCR with primers specific for the <i>E. coli</i> 16S rRNA locus. Results are quantified using a standard curve generated from purified <i>E. coli</i> genomic DNA. The measured level of <i>E. coli</i> genomic DNA contamination is ≤ 1 <i>E. coli</i> genome.	Pass



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Assay Name/Specification (minimum release criteria)	Lot #0021706
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 phi29 DNA Polymerase 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 May 2017



Inspected by
Tony Spear-Alfonso
01 Jun 2017

