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240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

New England Biolabs Certificate of Analysis

Product Name:	phi29 DNA Polymerase
Catalog Number:	M0269L
Concentration:	10,000 U/ml
Unit Definition:	One unit is defined as the amount of enzyme that will incorporate 0.5 pmol of dNTP into acid insoluble material in 10 minutes at 30°C.
Packaging Lot Number:	10218706
Expiration Date:	08/2025
Storage Temperature:	-20°C
Storage Conditions:	10 mM Tris-HCl , 100 mM KCl , 1 mM DTT , 0.1 mM EDTA , 0.5 % Tween® 20 , 0.5 % IGEPAL® CA-630 , 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version:	PS-M0269S/L v3.0

phi29 DNA Polymerase Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
M0269LVIAL	phi29 DNA Polymerase	10203127	Pass	
B9200SVIAL	Recombinant Albumin, Molecular Biology G	10198642	Pass	
B0269SVIAL	Φ29 DNA Polymerase Reaction Buffer	10178665	Pass	

Assay Name/Specification	Lot # 10218706
Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of phi29 DNA Polymerase 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) A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 10 units of phi29 DNA Polymerase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
Phosphatase Activity (pNPP) A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl2 containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units phi29 DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	Pass
Protein Purity Assay (SDS-PAGE)	Pass





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Assay Name/Specification	Lot # 10218706
phi29 DNA Polymerase is \geq 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	
RNase Activity Assay A 10 μ I reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 μ I of phi29 DNA Polymerase is incubated at 37°C. After incubation for 4 hours, the substrate RNA is assessed by gel electrophoresis using fluorescent detection and compared to the product's RNase QC Standard resulting in no additional non-specific nuclease degradation.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 10 units of phi29 DNA Polymerase 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

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

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Lea Antonpoulos Production Scientist 11 Sep 2023

Josh Hersey

Packaging Quality Control Inspector 28 Dec 2023

