

New England Biolabs Certificate of Analysis

Product Name: Antarctic Phosphatase
Catalog Number: M0289S
Concentration: 5,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will dephosphorylate 1 µg of pUC19 vector DNA cut with a restriction enzyme generating 5' recessed ends in 30 minutes at 37°C. Dephosphorylation is defined as >95% inhibition of recircularization in a self-ligation reaction and is measured by transformation into *E. coli*.
Lot Number: 10027177
Expiration Date: 06/2020
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 1 mM MgCl₂, 0.01 mM ZnCl₂, 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M0289S/L v1.0

Antarctic Phosphatase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0289SVIAL	Antarctic Phosphatase	10009602	Pass
B0289SVIAL	Antarctic Phosphatase Reaction Buffer	10016574	Pass

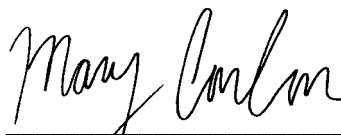
Assay Name/Specification	Lot # 10027177
Endonuclease Activity (Nicking) A 50 µl reaction in Antarctic Phosphatase Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of Antarctic Phosphatase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in Antarctic Phosphatase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³ H] <i>E. coli</i> DNA and a minimum of 50 units of Antarctic Phosphatase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in NEBuffer 4 containing 1 µg of PhiX174-HaeIII DNA and a minimum of 50 units of Antarctic Phosphatase incubated for 16 hours at 37°C results in a DNA	Pass

Assay Name/Specification	Lot # 10027177
<p>pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	
<p>Protein Purity Assay (SDS-PAGE) Antarctic Phosphatase is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 5 units of Antarctic Phosphatase 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 Antarctic Phosphatase 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.



Heidi Church
Production Scientist
10 Jul 2018



Mary Conlon
Packaging Quality Control Inspector
04 Dec 2018