

New England Biolabs Certificate of Analysis

Product Name: Antarctic Phosphatase
Catalog Number: M0289L
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*.
Packaging Lot Number: 10077395
Expiration Date: 03/2022
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 v2.0

Antarctic Phosphatase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0289LVIAL	Antarctic Phosphatase	10068199	Pass
B0289SVIAL	Antarctic Phosphatase Reaction Buffer	10068193	Pass

Assay Name/Specification	Lot # 10077395
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.	Pass
qPCR DNA Contamination (E. coli Genomic) A minimum of 5 units of Antarctic Phosphatase 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
Protein Purity Assay (SDS-PAGE) Antarctic Phosphatase is ≥ 95% pure as determined by SDS-PAGE analysis using	Pass

Assay Name/Specification	Lot # 10077395
Coomassie Blue detection.	
<p>Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart® 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.</p>	Pass
<p>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 pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in Antarctic Phosphatase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 50 units of Antarctic Phosphatase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass

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



Ana Egana
Production Scientist
17 Jul 2020



Michael Tonello
Packaging Quality Control Inspector
17 Jul 2020