

New England Biolabs Certificate of Analysis

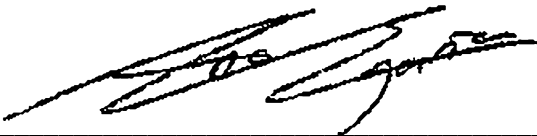
Product Name: Antarctic Phosphatase
Catalog Number: M0289S
Concentration: 5,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme that will dephosphorylate 1 µg of pUC19 vector DNA cut with a restriction enzyme generating 5' recessed ends in 30 minutes at 37°C. Dephosphorylation is defined as >95% inhibition of recircularization in a self-ligation reaction and is measured by transformation into *E. coli*.
Packaging Lot Number: 10068197
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
M0289SVIAL	Antarctic Phosphatase	10068196	Pass
B0289SVIAL	Antarctic Phosphatase Reaction Buffer	10068193	Pass

Assay Name/Specification	Lot # 10068197
<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] <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.</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</p>	Pass

Assay Name/Specification	Lot # 10068197
<p>incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p>	
<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>Protein Purity Assay (SDS-PAGE) Antarctic Phosphatase is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<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

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



Ana Egana
Production Scientist
23 Jun 2020



Michael Tonello
Packaging Quality Control Inspector
23 Jun 2020