NEW ENGLAND BioLabs Inc.
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240 County Road
Ipswich, MA 01938-2723
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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:	*10067113*
Expiration Date:	*09/2021*
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	10052533	**Pass**
B0289SVIAL	Antarctic Phosphatase Reaction Buffer	10068193	**Pass**

Assay Name/Specification	**Lot # 10067113**
Protein Purity Assay (SDS-PAGE) Antarctic Phosphatase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
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.	**Pass**
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 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by	**Pass**

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Assay Name/Specification	Lot # 10067113
gel electrophoresis using fluorescent detection.	
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 37ºC results in a DNA pattern free of detectable nuclease degradation 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] E. coli DNA and a minimum of 50 units of Antarctic Phosphatase incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity.	**Pass**
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.	**Pass**

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

Ana Egana
Production Scientist
12 Mar 2020

Jay Minichiello
Packaging Quality Control Inspector
12 Mar 2020