

New England Biolabs Certificate of Analysis

Product Name: *Pacl*
Catalog Number: *R0547S*
Concentration: *10,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg of pNEB193 DNA in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10123807*
Expiration Date: *02/2023*
Storage Temperature: *-20°C*
Storage Conditions: *200 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA*
Specification Version: *PS-R0547S/L v1.0*

Pacl Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0547SVIAL	Pacl	10097999	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10119053	Pass
B6004SVIAL	rCutSmart™ Buffer	10120518	Pass

Assay Name/Specification	Lot # 10123807
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of pNEB193 DNA with Pacl, ~75% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with Pacl.	Pass
Protein Purity Assay (SDS-PAGE) Pacl is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
Blue-White Screening (Terminal Integrity) A sample of pNEB193 vector linearized with a 10-fold excess of Pacl, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 Units of Pacl incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass

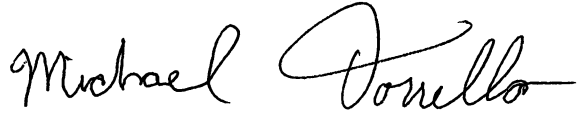
Assay Name/Specification	Lot # 10123807
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of PaeI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pNEB193 DNA and a minimum of 100 units of PaeI 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

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

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Production Scientist
01 Oct 2021



Michael Tonello
Packaging Quality Control Inspector
01 Oct 2021