

New England Biolabs Certificate of Analysis

Product Name: Pacl
Catalog Number: R0547L
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: 10070986
Expiration Date: 01/2022
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
R0547LVIAL	Pacl	10062775	Pass
B7204SVIAL	CutSmart® Buffer	10071080	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065746	Pass

Assay Name/Specification	Lot # 10070986
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
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of Pacl incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of pNEB193 DNA with Pacl, ~75% of the DNA fragments	Pass

Assay Name/Specification	Lot # 10070986
<p>can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with Pacl.</p>	
<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 Pacl 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>Protein Purity Assay (SDS-PAGE) Pacl is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	Pass

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



Penghua Zhang
Production Scientist
11 May 2020



Jay Minichiello
Packaging Quality Control Inspector
11 May 2020