

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: 10103917
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) | 10091457 | Pass |
| B6004SVIAL | rCutSmart™ Buffer | 10103709 | Pass |

| Assay Name/Specification | Lot # 10103917 |
|--|----------------|
| Protein Purity Assay (SDS-PAGE) Pacl is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection. | Pass |
| 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. | 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 |

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|---|----------------|
| <p>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.</p> | Pass |
| <p>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.</p> | Pass |

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

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Production Scientist
12 Apr 2021



Josh Hersey
Packaging Quality Control Inspector
12 Apr 2021