

## New England Biolabs Certificate of Analysis

**Product Name:** PshAI  
**Catalog Number:** R0593S  
**Concentration:** 10,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10123000  
**Expiration Date:** 09/2023  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R0593S/L v1.0

| PshAI Component List |                       |            |                      |
|----------------------|-----------------------|------------|----------------------|
| NEB Part Number      | Component Description | Lot Number | Individual QC Result |
| R0593SVIAL           | PshAI                 | 10122999   | Pass                 |
| B6004SVIAL           | rCutSmart™ Buffer     | 10124441   | Pass                 |

| Assay Name/Specification                                                                                                                                                                                                                                                                            | Lot # 10123000 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 100 units of PshAI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.   | Pass           |
| <b>Ligation and Recutting (Terminal Integrity)</b><br>After a 10-fold over-digestion of Lambda DNA with PshAI, >95% 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 PshAI.                                           | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 50 Units of PshAI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass           |
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 30 Units of PshAI 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.

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08 Nov 2021



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