

## New England Biolabs Certificate of Analysis

**Product Name:** *SacII*  
**Catalog Number:** *R0157S*  
**Concentration:** *20,000 U/ml*  
**Unit Definition:** *One unit is defined as the amount of enzyme required to digest 1 µg of pXba DNA in 1 hour at 37°C in a total reaction volume of 50 µl.*  
**Packaging Lot Number:** *10173332*  
**Expiration Date:** *08/2024*  
**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-R0157S/L v1.0*

| SacII Component List |                              |            |                      |
|----------------------|------------------------------|------------|----------------------|
| NEB Part Number      | Component Description        | Lot Number | Individual QC Result |
| R0157SVIAL           | SacII                        | 10160448   | Pass                 |
| B7024AVIAL           | Gel Loading Dye, Purple (6X) | 10167588   | Pass                 |
| B6004SVIAL           | rCutSmart™ Buffer            | 10168650   | Pass                 |

| Assay Name/Specification  | Lot # 10173332 |
|---|----------------|
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 60 Units of SacII incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.             | Pass           |
| <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 SacII 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 20-fold over-digestion of pXba DNA with SacII, >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 SacII.   | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 60 Units of SacII incubated for 16 hours at 37°C results in a DNA pattern free of   | Pass           |

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|---|----------------|
| detectable nuclease degradation as determined by agarose gel electrophoresis. |                |

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

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11 Aug 2022



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