

## New England Biolabs Certificate of Analysis

**Product Name:** XmnI  
**Catalog Number:** R0194L  
**Concentration:** 20,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10083944  
**Expiration Date:** 09/2022  
**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-R0194S/L v1.0

| XmnI Component List |                              |            |                      |
|---------------------|------------------------------|------------|----------------------|
| NEB Part Number     | Component Description        | Lot Number | Individual QC Result |
| R0194LVIAL          | XmnI                         | 10083945   | Pass                 |
| B7204SVIAL          | CutSmart® Buffer             | 10079734   | Pass                 |
| B7024AVIAL          | Gel Loading Dye, Purple (6X) | 10082183   | Pass                 |

| Assay Name/Specification  | Lot # 10083944 |
|---|----------------|
| <b>Protein Purity Assay (SDS-PAGE)</b><br>XmnI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.  | 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 100 Units of XmnI 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>Ligation and Recutting (Terminal Integrity)</b><br>After a 20-fold over-digestion of Lambda DNA with XmnI, ~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 XmnI.   | 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 XmnI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.    | Pass           |

| Assay Name/Specification   | Lot # 10083944 |
|--|----------------|
| <p><b>Endonuclease Activity (Nicking)</b><br/>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled Litmus38i DNA and a minimum of 60 Units of XmnI incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | <b>Pass</b>    |
| <p><b>Blue-White Screening (Terminal Integrity)</b><br/>A sample of pUC19 vector linearized with a 10-fold excess of XmnI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in &lt;1% white colonies.</p>   | <b>Pass</b>    |

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

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03 Sep 2020




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