

## 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:** 10101106  
**Expiration Date:** 03/2023  
**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-R0194S/L v1.0

XmnI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0194LVIAL	XmnI	10101104	Pass
B7024AVIAL	Gel Loading Dye, Purple (6X)	10091457	Pass
B6004SVIAL	rCutSmart™ Buffer	10102966	Pass

Assay Name/Specification	Lot # 10101106
<b>Protein Purity Assay (SDS-PAGE)</b> XmnI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> 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>Blue-White Screening (Terminal Integrity)</b> 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 <1% white colonies.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> 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 # 10101106
<p><b>Endonuclease Activity (Nicking)</b> 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>Ligation and Recutting (Terminal Integrity)</b> 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, &gt;95% can be recut with XmnI.</p>	<b>Pass</b>

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

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05 Apr 2021




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05 Apr 2021