

## New England Biolabs Certificate of Analysis

**Product Name:** *XmaI*  
**Catalog #:** *R0180M*  
**Concentration:** *50,000 units/ml*  
**Unit Definition:**  
**Lot #:** *0661411*  
**Assay Date:** *11/2014*  
**Expiration Date:** *11/2016*  
**Storage Temp:** *-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-R0180M v1.0*  
**Effective Date:** *03 Sep 2013*

Assay Name/Specification (minimum release criteria)	Lot #0661411
<p><b>Endonuclease Activity (Nicking)</b> - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 Units of XmaI 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>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] <i>E. coli</i> DNA and a minimum of 50 units of XmaI incubated for 4 hours at 37°C releases &lt;0.2% of the total radioactivity.</p>	<b>Pass</b>
<p><b>Ligation and Recutting (Terminal Integrity)</b> - After a 10-fold over-digestion of pXba DNA with XmaI, &gt;95% 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 XmaI.</p>	<b>Pass</b>
<p><b>Non-Specific DNase Activity (16 Hour)</b> - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 10 Units of XmaI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> - XmaI is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>



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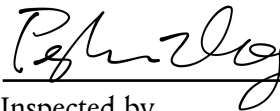
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\* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.



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Authorized by  
Derek Robinson  
03 Sep 2013



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Inspected by  
Penghua Zhang  
21 Nov 2014

