

## New England Biolabs Certificate of Analysis

**Product Name:** *XmaI*  
**Catalog Number:** *R0180S*  
**Concentration:** *10,000 U/ml*  
**Unit Definition:** *One unit is defined as the amount of enzyme required to digest 1 µg pXba in 1 hour at 37°C in a total reaction volume of 50 µl.*  
**Lot Number:** *10022745*  
**Expiration Date:** *04/2020*  
**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-R0180S/L v1.0*

XmaI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0180SVIAL	XmaI	0661804	Pass
B7204SVIAL	CutSmart® Buffer	10018444	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10018417	Pass

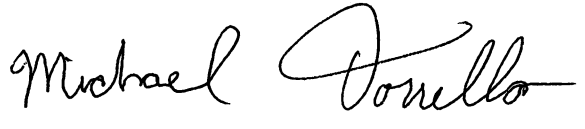
Assay Name/Specification	Lot # 10022745
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 10 Units of XmaI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> XmaI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of pXba DNA with XmaI, >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 XmaI.	Pass
<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 <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass

Assay Name/Specification	Lot # 10022745
<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] E. coli 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>	<p><b>Pass</b></p>

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



Tony Spear-Alfonso  
Production Scientist  
17 Sep 2018



Michael Tonello  
Packaging Quality Control Inspector  
24 Oct 2018