NEW ENGLAND BioLabs Inc.
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240 County Road
Ipswich, MA 01938-2723
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New England Biolabs
Certificate of Analysis

Product Name:	*XmaI*
Catalog Number:	*R0180M*
Concentration:	*50,000 U/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 1 µg adenovirus-2 in 1 hour at 37°C in a total reaction volume of 50 µl.*
Lot Number:	*10052662*
Expiration Date:	*08/2021*
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-R0180M v1.0*

XmaI Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R0180MVIAL	XmaI	10052661	**Pass**
B7204SVIAL	CutSmart® Buffer	10046082	**Pass**
B7024SVIAL	Gel Loading Dye, Purple (6X)	10043911	**Pass**

Assay Name/Specification	Lot # 10052662
Endonuclease Activity (Nicking) 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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 50 units of XmaI incubated for 4 hours at 37ºC releases <0.2% of the total radioactivity.	**Pass**
Ligation and Recutting (Terminal Integrity) 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 16ºC. Of these ligated fragments, >95% can be recut with XmaI.	**Pass**
Non-Specific DNase Activity (16 Hour) 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 37ºC results in a DNA pattern free of	**Pass**

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Assay Name/Specification	Lot # 10052662
detectable nuclease degradation as determined by agarose gel electrophoresis.	
Protein Purity Assay (SDS-PAGE) XmaI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	**Pass**

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

Doreen Duquette
Production Scientist
02 Aug 2019

Jay Minichiello
Packaging Quality Control Inspector
09 Sep 2019