

## New England Biolabs Certificate of Analysis

**Product Name:** XbaI  
**Catalog Number:** R0145S  
**Concentration:** 20,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (dam-/HindIII digest) in 1 hour at 37°C in a total reaction volume of 50 µl.  
**Lot Number:** 10049411  
**Expiration Date:** 03/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R0145S/L v1.0

### XbaI Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R0145SVIAL	XbaI	10040253	Pass
B7204SVIAL	CutSmart® Buffer	10043915	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10043349	Pass

Assay Name/Specification	Lot # 10049411
<b>Blue-White Screening (Terminal Integrity)</b> A sample of pUC19 vector linearized with a 10-fold excess of XbaI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 Units of XbaI incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	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 200 units of XbaI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of Adenovirus-2 DNA with XbaI, >95% of the DNA	Pass

Assay Name/Specification	Lot # 10049411
<p>fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with XbaI.</p> <p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda HindIII dam- DNA and a minimum of 200 Units of XbaI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p><b>Protein Purity Assay (SDS-PAGE)</b> XbaI is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p style="text-align: center;"><b>Pass</b></p> <p style="text-align: center;"><b>Pass</b></p>

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



Stephanie Cornelio  
Production Scientist  
02 Apr 2019



Michael Tonello  
Packaging Quality Control Inspector  
10 Jul 2019