

## New England Biolabs Certificate of Analysis

**Product Name:** *XhoI*

**Catalog Number:** *R0146S*

**Concentration:** *20,000 U/ml*

**Unit Definition:** *One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (HindIII digest) fragments in 1 hour at 37°C in a total reaction volume of 50 µl.*

**Lot Number:** *10021052*

**Expiration Date:** *08/2020*

**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-R0146S/L v2.0*

XhoI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0146SVIAL	XhoI	10017156	Pass
B7204SVIAL	CutSmart® Buffer	10015395	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10018419	Pass

Assay Name/Specification	Lot # 10021052
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda HindIII DNA and a minimum of 100 Units of XhoI 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> XhoI is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>
<p><b>Blue-White Screening (Terminal Integrity)</b> A sample of Litmus 28i vector linearized with a 10-fold excess of XhoI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in &lt;1% white colonies.</p>	<b>Pass</b>
<p><b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 100 Units of XhoI incubated for 4 hours at 37°C results in &lt;10%</p>	<b>Pass</b>

Assay Name/Specification	Lot # 10021052
conversion to the nicked form as determined by agarose gel electrophoresis.	
<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 100 units of XhoI incubated for 4 hours at 37°C releases &lt;0.1% 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 XhoI, &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 XhoI.</p>	<b>Pass</b>

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



Tony Spear-Alfonso  
Production Scientist  
08 Aug 2018



Michael Tonello  
Packaging Quality Control Inspector  
11 Sep 2018