NEW ENGLAND BioLabs Inc.
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# 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.* |
| *Packaging Lot Number:* | *10150977* |
| *Expiration Date:* | *05/2024* |
| *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 | 10150974 | **Pass** |
| B7024AVIAL | Gel Loading Dye, Purple (6X) | 10149690 | **Pass** |
| B6004SVIAL | rCutSmart™ Buffer | 10149689 | **Pass** |

| **Assay Name/Specification** | **Lot # 10150977** |
|---|---|
| **Non-Specific DNase Activity (16 Hour)**<br>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 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |
| **Ligation and Recutting (Terminal Integrity)**<br>After a 10-fold over-digestion of pXba DNA with XhoI, >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 XhoI. | **Pass** |
| **Exonuclease Activity (Radioactivity Release)**<br>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 100 units of XhoI incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity. | **Pass** |
| **Blue-White Screening (Terminal Integrity)** | **Pass** |

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| Assay Name/Specification | Lot # 10150977 |
|---|---|
| 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 <1% white colonies. | |
| **Endonuclease Activity (Nicking)**<br>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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |
| **Protein Purity Assay (SDS-PAGE)**<br>XhoI 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.

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Penghua Zhang
Production Scientist
02 Jun 2022

Erin Varney
Packaging Quality Control Inspector
02 Jun 2022