



## PRODUCT INFORMATION

# XhoI

**#ER0695** 5000 U

**Lot:** \_\_\_\_ **Expiry Date:** \_\_

5'...**C**↓**T** **C** **G** **A** **G**...3'  
3'...**G** **A** **G** **C** **T**↑**C**...5'

Concentration: 10 u/μL  
Supplied with: 2 x 1 mL of 10X Buffer R  
1 mL of 10X Buffer Tango

**Store at -20°C**



In total 4 vials.

BSA included

[www.thermoscientific.com/onebio](http://www.thermoscientific.com/onebio)

## RECOMMENDATIONS

**1X Buffer R** (for 100% XhoI digestion)

10 mM Tris-HCl (pH 8.5), 10 mM MgCl<sub>2</sub>, 100 mM KCl,  
0.1 mg/mL BSA.

**Incubation temperature**

37°C.

**Unit Definition**

One unit is defined as the amount of XhoI required to digest 1 μg of lambda DNA-HindIII fragments in 1 hour at 37°C in 50 μL of recommended reaction buffer.

**Dilution**

Dilute with Dilution Buffer (#B19): 10 mM Tris-HCl (pH 7.4 at 25°C), 100 mM KCl, 1 mM EDTA, 1 mM DTT, 0.2 mg/mL BSA and 50% glycerol.

**Double Digests**

Thermo Scientific Tango Buffer is provided to simplify buffer selection for double digests. 98% of Thermo Scientific restriction enzymes are active in a 1X or 2X concentration of Tango™ Buffer. Please refer to [www.thermoscientific.com/doubledigest](http://www.thermoscientific.com/doubledigest) to choose the best buffer for your experiments.

1X Tango Buffer: 33 mM Tris-acetate (pH 7.9 at 37°C), 10 mM magnesium acetate, 66 mM potassium acetate, 0.1 mg/mL BSA.

**Storage Buffer**

XhoI is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 100 mM KCl, 1 mM DTT, 1 mM EDTA, 0.2 mg/mL BSA and 50% glycerol.

## Recommended Protocol for Digestion

- Add:  
nuclease-free water      16 µL  
10X Buffer R                2 µL  
DNA (0.5-1 µg/µL)        1 µL  
XhoI                          0.5-2 µL\*
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

The digestion reaction may be scaled either up or down.

## Recommended Protocol for Digestion of PCR Products Directly after Amplification

- Add:  
PCR reaction mixture      10 µL (~0.1-0.5 µg of DNA)  
nuclease-free water      18 µL  
10X Buffer R                2 µL  
XhoI                          1-2 µL\*
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

\* This volume of the enzyme is recommended for preparations of standard concentrations (10 u/µL), whereas HC enzymes (50 u/µL) should be diluted with Dilution Buffer to obtain 10 u/µL concentration.

## Thermal Inactivation

XhoI is inactivated by incubation at 80°C for 20 min.

## ENZYME PROPERTIES

### Enzyme Activity in Thermo Scientific REase Buffers, %

B	G	O	R	Tango	2X Tango
0-20	50-100	50-100	100	20-50	100

### Methylation Effects on Digestion

Dam: never overlaps – no effect.

Dcm: never overlaps – no effect.

CpG: completely overlaps – cleavage impaired.

EcoKI: never overlaps – no effect.

EcoBI: never overlaps – no effect.

### Stability during Prolonged Incubation

A minimum of 0.1 units of the enzyme is required for complete digestion of 1 µg of lambda DNA in 16 hours at 37°C.

### Digestion of Agarose-embedded DNA

A minimum of 5 units of the enzyme is required for complete digestion of 1 µg of agarose-embedded lambda DNA in 16 hours.

### Compatible Ends

Eco88I, PspXI, Sall, Smol, SgrDI.

### Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
1	1	0	0	0	0	0

### Note

Supercoiled plasmids may require up to 5-fold more XhoI for complete digestion than linear DNA.

For **CERTIFICATE OF ANALYSIS** see back page

# CERTIFICATE OF ANALYSIS

## Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 160-fold overdigestion with XhoI (10 u/μg lambda DNA x 16 hours).

## Ligation and Recleavage (L/R) Assay

The ligation and recleavage assay was replaced with LO test after validating experiments showed LO test ability to trace nuclease and phosphatase activities with sensitivity that is higher than L/R by a factor of 100.

## Labeled Oligonucleotide (LO) Assay

No detectable degradation of single-stranded or double-stranded labeled oligonucleotides occurred during incubation with 10 units of XhoI for 4 hours.

## Blue/White (B/W) Cloning Assay

The B/W assay was replaced with LO test after validating experiments showed LO test ability to detect nuclease and phosphatase activities with sensitivity that equals to that of B/W test.

**Quality authorized by:**

 Jurgita Zilinskiene

## **PRODUCT USE LIMITATION**

This product is developed, designed and sold exclusively *for research purposes and in vitro use only*. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

Please refer to [www.thermoscientific.com/onebio](http://www.thermoscientific.com/onebio) for Material Safety Data Sheet of the product.

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