

PRODUCT INFORMATION

# Bsu15I (ClaI)

#ER0145      1000 U

Lot: \_\_\_\_\_      Expiry Date: \_

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

Concentration: 10 U/μL  
Source: *Bacillus subtilis* 15  
Supplied with: \_ mL of 10X Buffer Tango

Store at -20°C



In total \_ vials.      BSA included  
[www.thermoscientific.com/onebio](http://www.thermoscientific.com/onebio)

## RECOMMENDATIONS

**1X Thermo Scientific Tango Buffer** (for 100% Bsu15I digestion)

33 mM Tris-acetate (pH 7.9), 10 mM magnesium acetate, 66 mM potassium acetate, 0.1 mg/mL BSA.

### Incubation temperature

37°C.

### Unit Definition

One unit is defined as the amount of Bsu15I required to digest 1 μg of lambda DNA 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

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

### Storage Buffer

Bsu15I is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 100 mM KCl, 1 mM EDTA, 1 mM DTT, 0.15% Triton X-100, 0.2 mg/mL BSA and 50% glycerol.

Recommended Protocol for Digestion

- Add:  
nuclease-free water      16 µL  
10X Buffer Tango          2 µL  
DNA (0.5-1 µg/µL)        1 µL  
Bsu15I                      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 Tango          2 µL  
Bsu15I                      1-2 µL
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

Thermal Inactivation

Bsu15I is inactivated by incubation at 65°C for 20 min.

ENZYME PROPERTIES

Enzyme Activity in Thermo Scientific REase Buffers, %

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

Methylation Effects on Digestion

- Dam: may overlap – blocked.
- Dcm: never overlaps – no effect.
- CpG: completely overlaps – blocked.
- EcoKI: never overlaps – no effect.
- EcoBI: may overlap – effect not determined.

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

Bsp119I, Hin1I, Hin6I, HpaII, MaeII, MspI, NarI, Psp1406I, SsiI, TaqI, XmiI.

Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
15	0	1	0	0	0	2

Note

Bsu15I is blocked by overlapping *dam* methylation. To avoid *dam* methylation, use a *dam*<sup>-</sup>, *dcm*<sup>-</sup> strain such as GM2163 (#M0099).  
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 Bsu15I (10 U/μg lambda DNA × 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 Bsu15I 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

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