



PRODUCT INFORMATION

BfuI (BciVI)

#ER1501 100 U

Lot: ____ **Expiry Date:** __

5'...**G T A T C C(N)**₆↓ ...3'
3'...**C A T A G G(N)**₅↑ ...5'

Concentration: 5 U/μL
Source: *Bacillus firmus* Auk 22-m21
Supplied with: 1 mL of 10X Buffer BfuI
 1 mL of 10X Buffer Tango

Store at -20°C



BSA included

www.thermoscientific.com/onebio

RECOMMENDATIONS

1X Buffer BfuI (for 100% BfuI digestion)

50 mM Tris-acetate (pH 7.9), 15 mM magnesium acetate,
100 mM potassium acetate, 0.1 mg/mL BSA.

Incubation temperature

37°C.

Unit Definition

One unit is defined as the amount of BfuI 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

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 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

BfuI is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 300 mM NaCl, 1 mM DTT, 1 mM EDTA, 0.2 mg/mL BSA and 50% glycerol.

Recommended Protocol for Digestion

- Add:

| | |
|------------------------------|----------------|
| nuclease-free water | 16 μ L |
| 10X Buffer Bful | 2 μ L |
| DNA (0.5-1 μ g/ μ L) | 1 μ L |
| Bful | 0.5-2 μ L* |
- 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 μ L (~0.1-0.5 μ g of DNA) |
| nuclease-free water | 18 μ L |
| 10X Buffer Bful | 2 μ L |
| Bful | 1-2 μ L* |
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours*.

* See Star Activity.

Thermal Inactivation

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

ENZYME PROPERTIES

Enzyme Activity in Thermo Scientific REase Buffers, %

| Bful | B | G | O | R | Tango | 2X Tango |
|------|----|----|------|------|-------|----------|
| 100 | NR | NR | 0-20 | 0-20 | NR | 50-100** |

**Star activity appears at a greater than 5-fold overdigestion (5 U x 1h).
NR – buffer is not recommended, because of high star activity.

Star Activity

An excess of Bful (7.5 U/ μ g DNA x 1 hour) may result in star activity.

Methylation Effects

Dam: never overlaps – no effect.

Dcm: may overlap – no effect.

CpG: may overlap – no effect.

EcoKI: never overlaps – no effect.

EcoBI: never overlaps – no effect.

Stability during Prolonged Incubation

A minimum of 1 unit of the enzyme is required for complete digestion of 1 μ g 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 μ g of agarose-embedded lambda DNA in 16 hours.

Number of Recognition Sites in DNA

| λ | Φ X174 | pBR322 | pUC57 | pUC18/19 | pTZ19R/U | M13mp18/19 |
|-----------|-------------|--------|-------|----------|----------|------------|
| 26 | 4 | 2 | 2 | 2 | 2 | 0 |

CERTIFICATE OF ANALYSIS

Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 5-fold overdigestion with BfuI (5 U/ μ g lambda DNA x 1 hour) (*see* Star Activity).

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 BfuI for 4 hours.

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 for Material Safety Data Sheet of the product.

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