

CERTIFICATE OF ANALYSIS

# BseGI (FokI, *see Note*)

#ER0871      500 u

**Lot:**                      **Expiry Date:**

5'...G G A T G N N↓...3'

3'...C C T A C↑N N ...5'

**Note.** BseGI - neoschizomer of FokI, cleaves closer to the recognition sequence and produces DNA fragments that have a 2-base 3'-extension.

Concentration:      10 u/μl  
Source:                *Bacillus stearothermophilus* Vs 34-031  
Supplied with:      1 ml of 10X Buffer Tango™

**Store at -20°C**



In total 2 vials.

BSA included: Lot# BSA62-313P

## RECOMMENDATIONS

**1X Buffer Tango™** (for 100% BseGI digestion)

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

**Incubation temperature**

55°C\*.

**Unit Definition**

One unit is defined as the amount of BseGI required to digest 1 μg of lambda DNA in 1 hour at 55°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 is provided to simplify buffer selection for double digests. 98% of Fermentas restriction enzymes are active in a 1X or 2X concentration of Tango™ Buffer. Please refer to the Fermentas Catalog or go to [www.fermentas.com/doubledigest](http://www.fermentas.com/doubledigest) to choose the best buffer for your experiments.

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\* Incubation at 37°C results in 25% activity.

## Storage Buffer

BseGI is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 0.2 mg/ml BSA and 50% glycerol.

## Recommended Protocol for Digestion

- Add:

nuclease-free water	16 $\mu$ l
10X Buffer Tango™	2 $\mu$ l
DNA (0.5-1 $\mu$ g/ $\mu$ l)	1 $\mu$ l
BseGI	0.5-2 $\mu$ l
- Mix gently and spin down for a few seconds.
- Incubate at 55°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 $\mu$ l (~0.1-0.5 $\mu$ g of DNA)
nuclease-free water	18 $\mu$ l
10X Buffer Tango™	2 $\mu$ l
BseGI	1-2 $\mu$ l
- Mix gently and spin down for a few seconds.
- Incubate at 55°C for 1-16 hours.

## Thermal Inactivation

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

## ENZYME PROPERTIES

### Enzyme Activity in Fermentas REase Buffers, %

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

## Methylation Effects on Digestion

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

## Stability during Prolonged Incubation

A minimum of 0.2 units of the enzyme is required for complete digestion of 1  $\mu$ g of lambda DNA in 16 hours at 55°C.

## Number of Recognition Sites in DNA

$\lambda$	$\Phi$ X174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
150	8	12	5	5	4	4

For **QUALITY CONTROL ASSAY DATA** see back page

## QUALITY CONTROL ASSAY DATA

### Overdigestion Assay

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

### Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/μg DNA x 17 hours) with BseGI, more than 95% of the digested DNA fragments can be ligated at a 5'-termini concentration of 1.4 μM. More than 95% of these sites can be recut.

### Labeled Oligonucleotide (LO) Assay

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

Quality authorized by:



Laima Samaliene

### 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.fermentas.com](http://www.fermentas.com) for Material Safety Data Sheet of the product.