

CERTIFICATE OF ANALYSIS

BseNI (BsrI)

#ER0881 1000u

Lot: **Expiry Date:**

5'... **A C T G G N**↓...3'

3'... **T G A C C N** ...5'

Concentration: 10 units/μl
Source: *Bacillus species N*
Supplied with: 1ml of 10X Buffer B
 1ml of 10X Buffer Tango™

Store at -20°C



BSA included:
Lot# BSA62-313P

RECOMMENDATIONS

1X Buffer B (for 100% BseNI digestion)

10mM Tris-HCl (pH 7.5), 10mM MgCl₂, 0.1mg/ml BSA.

Incubation temperature

65°C*.

Unit Definition

One unit is defined as the amount of BseNI required to digest 1μg of lambda DNA in 1 hour at 65°C in 50μl of recommended reaction buffer.

Dilution

Dilute with Dilution Buffer (#B19): 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM EDTA, 1mM DTT, 0.2mg/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 to choose the best buffer for your experiments.

1X Tango™ Buffer:

33mM Tris-acetate (pH 7.9 at 37°C), 10mM magnesium acetate, 66mM potassium acetate, 0.1mg/ml BSA.

In total 3 vials.

* Incubation at 37°C results in less than 10% activity.

Storage Buffer

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

Recommended Protocol for Digestion

- Add:

nuclease-free water	16µl
10X Buffer B	2µl
BseNI	0.5-2µl
- Mix gently and spin down for a few seconds.
- Incubate at 65°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	10µl (~0.1-0.5µg of DNA)
nuclease-free water	18µl
10X Buffer B	2µl
BseNI	1-2µl
- Mix gently and spin down for a few seconds.
- Incubate at 65°C for 1-16 hours.

Thermal Inactivation

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

ENZYME PROPERTIES

Enzyme Activity in Fermentas REase Buffers, %

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

Methylation Effects on Digestion

Dam: never overlaps – no effect.
Dcm: never overlaps – no effect.
CpG: never overlaps – no effect.
EcoKI: may overlap – effect not determined.
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 1µg of DNA in 16 hours at 65°C.

Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
110	9	19	11	11	12	18

QUALITY CONTROL ASSAY DATA

Overdigestion Assay

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

Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/μg DNA x 17 hours) with BseNI, more than 95% of the digested DNA fragments can be ligated at a 5'-termini concentration of 1.0μM. More than 95% of these sites can be recut.

Labeled Oligonucleotide (LO) Assay

No detectable degradation of single-stranded or double-stranded labeled oligonucleotides occurred during incubation with 10 units of BseNI 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.fermentas.com for Material Safety Data Sheet of the product.