



CERTIFICATE OF ANALYSIS

MbiI (BsrBI)

#ER1271 1000 u

Lot: Expiry Date:

5'...G A G↓C G G...3'

3'...C T C↑G C C...5'

Concentration: 10 u/μl

Source: *Moraxella bovis* Fr 1-022

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% MbiI 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 MbiI 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), 100mM 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 to choose the best buffer for your experiments.

Storage Buffer

MbiI is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 200 mM NaCl, 1 mM DTT, 1mM EDTA, 0.2 mg/ml BSA and 50% glycerol.

Recommended Protocol for Digestion

- Add:

nuclease-free water	16 μ l
10X Buffer Tango™	2 μ l
DNA (0.5-1 μ g/ μ l)	1 μ l
Mbil	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 Tango™	2 μ l
Mbil	1-2 μ l*
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours*.

* See Note.

Thermal Inactivation

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

ENZYME PROPERTIES

Enzyme Activity in Fermentas REase Buffers, %

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

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: 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 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
17	1	2	3	3	4	4

Note

A large excess of Mbil (10 u/ μ g DNA x 16 hours) may result in star activity.

QUALITY CONTROL ASSAY DATA

Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 80-fold overdigestion with MbiI (5 u/μg lambda DNA x 16 hours).

Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/μg DNA x 17 hours) with MbiI, approximately 80% of the digested DNA fragments can be ligated at a 5'-termini concentration of 0.1 μM.

Approximately 50% of these sites can be recut.

DNA fragments, obtained after cleavage with MbiI (due to its asymmetric recognition sequence), may join each other in 3 different ways and in only one case is the resulting sequence recognized by MbiI. Other two sequences resulting from ligation of MbiI DNA fragments may be cleaved with Cfr42I (SacII) and Ecl136II (SacI).

Labeled Oligonucleotide (LO) Assay

No detectable degradation of single-stranded or double-stranded labeled oligonucleotides occurred during incubation with 10 units of MbiI 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.