

CERTIFICATE OF ANALYSIS

MnII

#ER1071 300 u

Lot: Expiry Date:

5'...C C T C (N)₇↓...3'
3'...G G A G (N)₆↑...5'

Concentration: 10 u/μl
Source: *E.coli* that carries the cloned *mnII*R gene from *Moraxella nonliquefaciens*
Supplied with: 1 ml of 10X Buffer G
1 ml of 10X Buffer Tango™

Store at -20°C



In total 3 vials.

BSA included: Lot# BSA62-313P

RECOMMENDATIONS

1X Buffer G (for 100% MnII digestion)

10 mM Tris-HCl (pH 7.5), 10 mM MgCl₂, 50 mM NaCl, 0.1 mg/ml BSA.

Incubation temperature

37°C.

Unit Definition

One unit is defined as the amount of MnII 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 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:

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

MnII is supplied in: 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.

Recommended Protocol for Digestion

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

Thermal Inactivation

MnII 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™
50-100	100	20-50	20-50	20-50	20-50

Methylation Effects on Digestion

Dam: never overlaps – no effect.
Dcm: never overlaps – no effect.
CpG: may overlap – no effect.
EcoKI: never overlaps – no effect.
EcoBI: may overlap – blocked.

Stability during Prolonged Incubation

A minimum of 0.5 units of the enzyme is required for
complete digestion of 1 μ g of DNA in 16 hours at 37°C.

Number of Recognition Sites in DNA

λ	Φ X174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
262	34	26	14	13	12	61

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 with MnlI (10 u/μg lambda DNA x 16 hours).

Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/μg DNA x 17 hours) with MnlI, more than 90% of the digested DNA fragments can be ligated at a 5'-termini concentration of 2 μM. More than 90% 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 MnlI for 4 hours.

Quality authorized by:



Jurgita Zilinskiene

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Certain countries are out of the scope of patent coverage.

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.