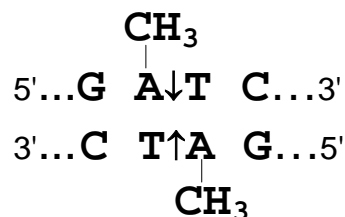


CERTIFICATE OF ANALYSIS

# DpnI

#ER1705 1000 u

Lot: Expiry Date:



Concentration: 10 u/ $\mu$ l  
Source: *E.coli* that carries the cloned *dpnI*R gene from *Diplococcus pneumoniae* G41  
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% DpnI 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 DpnI required to digest 1  $\mu$ g of pBR322 DNA (*dam* methylated) in 1 hour at 37°C in 50  $\mu$ l 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.

### Storage Buffer

DpnI is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 400 mM KCl, 1 mM DTT, 0.1 mM EDTA, 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
DpnI	0.5-2 $\mu$ 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.

## Thermal Inactivation

DpnI 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™
100	100	50-100	50-100	100	50-100

### Methylation Effects on Digestion

Dam: does not cut *dam*<sup>-</sup> DNA.  
Dcm: never overlaps – 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 0.1 units of the enzyme is required for complete digestion of 1  $\mu$ g of pBR322 DNA in 16 hours at 37°C.

### Number of Recognition Sites in DNA

$\lambda$	$\Phi$ X174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
116	0	22	15	15	15	7

## Note

DpnI requires the presence of N<sup>6</sup>-methyladenine within recognition sequence.

# QUALITY CONTROL ASSAY DATA

## Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 160-fold overdigestion (10 u/μg pBR322 DNA x 16 hours) with DpnI.

## Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/μg pBR322 DNA x 17 hours) with DpnI, more than 70% of the digested pBR322 DNA fragments can be ligated at a 5'-termini concentration of 4.6 μM. 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 DpnI 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](http://www.fermentas.com) for Material Safety Data Sheet of the product.