

## CERTIFICATE OF ANALYSIS

# DraI

**#ER0222**      5 x 1500 u

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

5'... **T T T↓A A A...**3'  
 3'... **A A A↑T T T...**5'

Concentration:      10 u/μl  
 Source:              *Deinococcus radiophilus*  
 Supplied with:      2 x 1 ml of 10X Buffer Tango™

**Store at -20°C**



In total 7 vials.

BSA included: Lot# BSA62-313P

## RECOMMENDATIONS

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

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

**Incubation temperature**

37°C.

**Unit Definition**

One unit is defined as the amount of DraI required to digest 1 μg 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](http://www.fermentas.com/doubledigest) to choose the best buffer for your experiments.

## Storage Buffer

Dral is supplied in: 10 mM Tris-HCl (pH 7.5 at 25°C), 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.2 mg/ml BSA, 0.15% Triton X-100 and 50% glycerol

## Recommended Protocol for Digestion

- Add:  
nuclease-free water      16 µl  
10X Buffer Tango™      2 µl  
DNA (0.5-1 µg/µl)      1 µl  
Dral      0.5-2 µl\*
- 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 µl (~0.1-0.5 µg of DNA)  
nuclease-free water      18 µl  
10X Buffer Tango™      2 µl  
Dral      1-2 µl\*
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

\* This volume of the enzyme is recommended for preparations of standard concentrations (10 u/µl), whereas HC enzymes (50 u/µl) should be diluted with Dilution Buffer to obtain 10 u/µl concentration.

## Thermal Inactivation

Dral 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	50-100	20-50	20-50	100	50-100

### Methylation Effects on Digestion

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

### Stability during Prolonged Incubation

A minimum of 0.1 units of the enzyme is required for complete digestion of 1 µg 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 µg of agarose-embedded lambda DNA in 16 hours.

### Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
13	2	3	3	3	3	5

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

## Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/μg DNA x 17 hours) with DraI, more than 95% of the digested DNA fragments can be ligated at a 5'-termini concentration of 0.13 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 DraI 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.