



## CERTIFICATE OF ANALYSIS

# SdaI (SbfI)

#ER1191      300 u

Lot:                      Expiry Date:

5'...C C T G C A↓G G...3'

3'...G G↑A C G T C C...5'

Concentration:      10 u/μl

Source:                *E.coli* that carries the cloned *sdalR* gene  
from *Streptomyces diastaticus* Ng 7-324

Supplied with:      1 ml of 10X Buffer SdaI  
1 ml of 10X Buffer Tango™

Store at -20°C



In total 3 vials.

BSA included: Lot# BSA62-313P

## RECOMMENDATIONS

**1X Buffer SdaI** (for 100% SdaI digestion)

37 mM Tris-acetate (pH 7.0), 15 mM magnesium acetate, 150 mM potassium acetate, 0.1 mg/ml BSA.

**Incubation temperature**

37°C.

**Unit Definition**

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

1X Tango™ Buffer:

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

## Storage Buffer

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

## Recommended Protocol for Digestion

- Add:

nuclease-free water	16 $\mu$ l
10X Buffer Sdal	2 $\mu$ l
DNA (0.5-1 $\mu$ g/ $\mu$ l)	1 $\mu$ l
Sdal	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.

## Recommended Protocol for Digestion of PCR Products Directly after Amplification

- Add:

PCR reaction mixture	10 $\mu$ l (~0.1-0.5 $\mu$ g of DNA)
nuclease-free water	18 $\mu$ l
10X Buffer Sdal	2 $\mu$ l
Sdal	1-2 $\mu$ l*
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours\*.

\* See Star Activity.

## Thermal Inactivation

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

## ENZYME PROPERTIES

### Enzyme Activity in Fermentas REase Buffers, %

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

NR – buffer is not recommended, because of high star activity.

### Star Activity

An excess of Sdal (7.5 u/ $\mu$ g DNA x 1 hour) may result in star activity.

### Methylation Effects on Digestion

Dam: never overlaps – no effect.

Dcm: never overlaps – no effect.

CpG: never overlaps – no effect.

EcoKI: never overlaps – no effect.

EcoBI: never overlaps – no effect.

### Stability during Prolonged Incubation

A minimum of 0.3 units of the enzyme is required for complete digestion of 1  $\mu$ 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  $\mu$ g of agarose-embedded lambda DNA in 16 hours.

### Compatible Ends

Alw21I, BseSI, Mph1103I, PstI, Sdul

### Number of Recognition Sites in DNA

$\lambda$	$\Phi$ X174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
5	0	0	0	1	1	1

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 5-fold overdigestion with SdaI (5 u/μg lambda DNA x 1 hour) (see Star Activity).

### Ligation/Recutting Assay

After a 5-fold overdigestion (2.5 units/μg DNA x 2 hours) with SdaI, more than 95% of the digested DNA fragments can be ligated at a 5'-termini concentration of 0.05 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 SdaI for 4 hours.

### Blue/White Cloning Assay

pUC19 DNA was incubated with 10 units of SdaI for 16 hours. After religation and transformation, the background level of white colonies was 0.3%.

Quality authorized by:  Laima Samaliene

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Please refer to [www.fermentas.com](http://www.fermentas.com) for Material Safety Data Sheet of the product