

## PRODUCT INFORMATION

# SdaI (SbfI)

**#ER1192**      1500 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 Sdal  
1 mL of 10X Buffer Tango

**Store at -20°C**



BSA included

[www.thermoscientific.com/onebio](http://www.thermoscientific.com/onebio)

## RECOMMENDATIONS

### 1X Buffer Sdal (for 100% Sdal 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 Sdal 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

Thermo Scientific Tango Buffer is provided to simplify buffer selection for double digests. 98% of Thermo Scientific restriction enzymes are active in a 1X or 2X concentration of Tango™ Buffer. Please refer to [www.thermoscientific.com/doubledigest](http://www.thermoscientific.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

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 µL
10X Buffer Sdal	2 µL
DNA (0.5-1 µg/µL)	1 µL
Sdal	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 Sdal	2 µL
Sdal	1-2 µL*
- 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 Thermo Scientific 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/µg 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 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.

### Compatible Ends

Alw21I, BseSI, Mph1103I, PstI, Sdul

### Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
5	0	0	0	1	1	1

For **CERTIFICATE OF ANALYSIS** see back page

# CERTIFICATE OF ANALYSIS

## Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 5-fold overdigestion with SdaI (5 U/ $\mu$ g lambda DNA x 1 hour) (*see* Star Activity).

## Ligation and Recleavage (L/R) Assay

The ligation and recleavage assay was replaced with LO test after validating experiments showed LO test ability to trace nuclease and phosphatase activities with sensitivity that is higher than L/R by a factor of 100.

## 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 (B/W) Cloning Assay

The B/W assay was replaced with LO test after validating experiments showed LO test ability to detect nuclease and phosphatase activities with sensitivity that equals to that of B/W test.

**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.thermoscientific.com/onebio](http://www.thermoscientific.com/onebio) for Material Safety Data Sheet of the product.

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