

PRODUCT INFORMATION

Rsal

#ER1122 5000 U

Lot: ____ Expiry Date: ____

5'...**G T↓A C**...3'

3'...**C A↑T G**...5'

Concentration: 10 U/μL
Source: *Rhodopseudomonas sphaeroides*
Supplied with: 2 x 1 mL of 10X Buffer Tango

Store at -20°C



In total 3 vials. BSA included

www.thermoscientific.com/onebio

RECOMMENDATIONS

1X Thermo Scientific Tango Buffer (for 100% RsaI 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 RsaI 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 provided simplifies buffer selection for double digests. 98% of Thermo Scientific restriction enzymes are active in a 1X or 2X concentration of Tango Buffer. Please go to www.thermoscientific.com/doubledigest to choose the best buffer for your experiments.

Storage Buffer

RsaI 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 µL
10X Buffer Tango 2 µL
DNA (0.5-1 µg/µL) 1 µL
RsaI 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
RsaI 1-2 µL
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

Thermal Inactivation

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

ENZYME PROPERTIES

Enzyme Activity in Thermo Scientific REase Buffers, %

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

Methylation Effects on Digestion

- Dam: never overlaps – no effect.
- Dcm: never overlaps – no effect.
- CpG: may overlap – cleavage impaired.
- EcoKI: never overlaps – no effect.
- EcoBI: never overlaps – no effect.

Stability during Prolonged Incubation

A minimum of 0.2 units of the enzyme is required for complete digestion of 1 µg of lambda DNA in 16 hours at 37°C.

Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
113	11	3	3	3	2	19

CERTIFICATE OF ANALYSIS

Overdigestion Assay


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

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 RsaI for 4 hours.

Quality authorized by:  Jurgita Zilinskiene

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Please refer to www.thermoscientific.com/onebio for Material Safety Data Sheet of the product.

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