



PRODUCT INFORMATION

TaaI (HpyCH4III)

#ER1361 200 U

Lot: ____ **Expiry Date:** __

5'...**A C N↓G T**...3'

3'...**T G↑N C A**...5'

Concentration: 10 U/μL

Source: *Thermus aquaticus* Vn 4-311

Supplied with: 1 mL of 10X Buffer Tango

Store at -20°C



BSA included

www.thermoscientific.com/onebio

RECOMMENDATIONS

1X Buffer Tango™ (for 100% TaaI digestion)

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

Incubation temperature

65°C*.

Unit Definition

One unit is defined as the amount of TaaI required to digest 1 μg of lambda DNA in 1 hour at 65°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

TaaI 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.

* Incubation at 37°C results in 10% activity.

Recommended Protocol for Digestion

- Add:

nuclease-free water	16 μL
10X Buffer Tango	2 μL
DNA (0.5-1 $\mu\text{g}/\mu\text{L}$)	1 μL
Taal	0.5-2 μL
- Mix gently and spin down for a few seconds.
- Incubate at 65°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	
Taal	1-2 μL	
- Mix gently and spin down for a few seconds.
- Incubate at 65°C for 1-16 hours.

Thermal Inactivation

Taal is not inactivated by incubation at 80°C for 20 min.

Inactivation Procedure

- To prepare the digested DNA for electrophoresis:
 - stop the digestion reaction by adding 0.5 M EDTA, pH 8.0 (#R1021), to achieve a 20 mM final concentration. Mix thoroughly, add an electrophoresis loading dye and load onto gel.
- To prepare DNA suitable for further enzymatic reactions:
 - extract with phenol/chloroform, precipitate with ethanol or isopropanol, wash the pellet with 75% cold ethanol and air-dry;
 - dissolve DNA in either nuclease-free water, TE buffer, or a buffer suitable for further applications;
 - check the DNA concentration in the solution.

For **ENZYME PROPERTIES** and **CERTIFICATE OF ANALYSIS**
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ENZYME PROPERTIES

Enzyme Activity in Thermo Scientific REase Buffers, %

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

Methylation Effects on Digestion

Dam: never overlaps – no effect.

Dcm: never overlaps – no effect.

CpG: may overlap – cleavage impaired.

EcoKI: may overlap – effect not determined.

EcoBI: may overlap – effect not determined.

Stability during Prolonged Incubation

A minimum of 0.2 units of enzyme is required for complete digestion of 1 µg of lambda DNA in 16 hours at 65°C.

Compatible Ends

Hpy188I

Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
187	15	14	8	8	7	31

CERTIFICATE OF ANALYSIS

Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 160-fold overdigestion with Taal (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 Taal 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.thermoscientific.com/onebio for Material Safety Data Sheet of the product.

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