Thermo SCIENTIFIC

PRODUCT INFORMATION

TaaI (HpyCH4III)

#ER1362 1000 U

Lot: ____ Expiry Date: _

5'...**A C N↓G T**...3' 3'...**T G↑N C A**...5'

Concentration:10 U/µLSource:Thermus aquaticus Vn 4-311Supplied with:1 mL of 10X Buffer Tango

Store at -20°C



BSA included

www.thermoscientific.com/onebio

RECOMMENDATIONS

1X Buffer Tango[™] (for 100% Taal 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 Taal 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

<u>www.thermoscientific.com/doubledigest</u> to choose the best buffer for your experiments.

Storage Buffer

Taal 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 water16 μ L10X Buffer Tango2 μ LDNA (0.5-1 μ g/ μ L)1 μ LTaal0.5-2 μ L

- 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:

- 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** *see* back page

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ENZYME PROPERTIES

Enzyme Activity in Thermo Scientific REase Buffers, %

| В | G | 0 | 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 μ g of lambda DNA in 16 hours at 65°C.

Compatible Ends

Hpy188I

Number of Recognition Sites in DNA

| λ | ФХ174 | 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/ μ g lambda DNA x 16 hours).

Ligation and Recleavage (L/R) Assay

The ligation and recleavage assay was replaced with L0 test after validating experiments showed L0 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 doublestranded 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 <u>www.thermoscientific.com/onebio</u> for Material Safety Data Sheet of the product.

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