Thermo
SCIENTIFIC

**PRODUCT INFORMATION**

# **Eco105I** (SnaBI)

**#ER0401** 600 U

**Lot: ___** **Expiry Date: _**

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

Concentration: 10 U/µL
Source: *E.coli* that carries the cloned *eco105IR* gene from *E.coli* RFL105
Supplied with: 1 mL of 10X Buffer Tango

**Store at -20°C**

In total 2 vials. BSA included

**www.thermoscientific.com/onebio**

## RECOMMENDATIONS

**1X Thermo Scientific Tango Buffer** (for 100% Eco105I 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 Eco105I required to digest 1 µg of lambda DNA-CpoI fragments 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**
Eco105I is supplied in: 10 mM Tris-HCl (pH 7.4 at 25°C), 100 mM KCl, 1 mM DTT, 1 mM EDTA, 1 mM phenylmethylsulfonylfluoride, 0.2 mg/mL BSA and 50% glycerol.

Rev.9

## Recommended Protocol for Digestion

- Add:

| | |
|---|---|
| nuclease-free water | 16 µL |
| 10X Buffer Tango | 2 µL |
| DNA (0.5-1 µg/µL) | 1 µL |
| Eco105I | 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 |
| Eco105I | 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

Eco105I is inactivated by incubation at 65°C for 20 min.

# ENZYME PROPERTIES

## Enzyme Activity in Thermo Scientific REase Buffers, %

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

**Star activity appears at a greater than 5-fold overdigestion (5 U × 1h).

## Star Activity

An excess of Eco105I (15 U/µg DNA × 1 hour) may result in star activity.

## Methylation Effects on Digestion

Dam: never overlaps – no effect.
Dcm: never overlaps – no effect.
CpG: completely overlaps – blocked.
EcoKI: never overlaps – no effect.
EcoBI: never overlaps – no effect.

## Stability during Prolonged Incubation

A minimum of 0.5 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.

## Number of Recognition Sites in DNA

| λ | ΦX174 | pBR322 | pUC57 | pUC18/19 | pTZ19R/U | M13mp18/19 |
|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 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 10-fold overdigestion with Eco105I (10 U/µg lambda DNA × 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 Eco105I 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.

© 2012 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries.