



## PRODUCT INFORMATION

# Eam1104I (EarI)

**#ER0232** 1500 U

**Lot:** \_\_\_\_ **Expiry Date:** \_\_

5'...**C T C T T C (N)**<sub>1</sub>↓...3'  
3'...**G A G A A G (N)**<sub>4</sub>↑...5'

Concentration: 10 U/μL

Source: *E.coli* that carries the cloned  
*eam1104IR* gene from *Enterobacter*  
*amnigenus* RFL1104

Supplied with: 1 mL of 10X Buffer Tango

**Store at -20°C**



BSA included

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

## RECOMMENDATIONS

**1X Thermo Scientific Tango Buffer** (for 100%  
Eam1104I 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 Eam1104I 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 refer to  
[www.thermoscientific.com/doubledigest](http://www.thermoscientific.com/doubledigest) to choose the  
best buffer for your experiments.

### Storage Buffer

Eam1104I 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.

Rev.10

## Recommended Protocol for Digestion

- Add:

nuclease-free water	16 µL
10X Buffer Tango	2 µL
DNA (0.5-1 µg/µL)	1 µL
Eam1104I	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
Eam1104I	1-2 µL
- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

## Thermal Inactivation

Eam1104I 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
50-100	50-100	0-20	0-20	100	0-20

### Methylation Effects on Digestion

Dam: never overlaps – no effect.  
Dcm: never overlaps – no effect.  
CpG: may overlap – no effect.  
EcoKI: never overlaps – no effect.  
EcoBI: may overlap – effect not determined.

### 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
34	2	2	3	3	3	2

### Note

Particular sites in λ and plasmids DNA are difficult to cleave with Eam1104I, as well as with its prototype Ksp632I.

# CERTIFICATE OF ANALYSIS

## Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 160-fold overdigestion with Eam1104I (10 U/μg lambda DNA × 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 Eam1104I 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](http://www.thermoscientific.com/onebio) for Material Safety Data Sheet of the product.

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