



Restriction Enzyme EcoRI



Cat.#	Size	Conc.
FG-EcoRI	20,000 units	20 units/μl

Store at -20°C

Supplied with: FastGene® 10X Buffer EcoR I (FG-REBEcoRI)
FastGene® 10X FastCut Buffer (FG-REBHF)
6X DNA Loading Buffer
Sterile water

Recognition site



For Research Use Only. Not for use in diagnostic procedures.

ISO9001

Heat Inactivation

EcoR I can be inactivated at 65°C for 20 min.

Methylation sensitivity

dam methylation: Not sensitive

dcm methylation: Not sensitive

CpG methylation: Conditionally Sensitive

Prolonged incubation

A minimum amount of enzyme required to digest 1 μg substrate DNA for 16 hr; 0.13 U.

Relative activity in FastGene® Buffers

FastGene® Buffer I:	50%
FastGene® Buffer II:	100%
FastGene® Buffer III:	75%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

Note

It can cleave non-specifically the sequences of AATT or PuPuATPyPy (Pu=purine; Py=pyrimidine) (star activity). The addition of 2 mM β-mercaptoethanol may inhibit this star activity. Long-term storage can result in aggregation, leading to reduced activity. Both DNA and RNA in a DNA/RNA hybrid duplex can be cleaved sequence specifically. Cleavage of mammalian genomic DNA is impaired by overlapping CpG methylation. Reaction condition of low salt, excess enzyme, excess glycerol (>5%) or high pH (>8.0) can result in star activity.

Source: *E. coli* RY13

Reaction conditions

1X FastGene® Buffer EcoR I, 37°C

2X FastGene® FastCut Buffer, 37°C

FastGene® FastCut Buffer

FastGene® restriction enzyme can cut substrate DNA in 5-15 min with FastGene® FastCut Buffer.

1X FastGene® Buffer EcoR I

100 mM Tris-HCl (pH 7.5 at 25°C)

50 mM NaCl

10 mM MgCl₂

0.025% Triton X-100

Unit definition

One unit is defined as the amount of enzyme required for complete digestion of 1 μg bacteriophage λ at 37°C for 1 hr in 50 μl reaction mixtures.

Quality control

- Unit definition assay
- Overdigestion assay
- Endonuclease assay
- Extreme pure assay

Dilution buffer

FastGene® Diluent C

Standard reaction condition

- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® Buffer EcoR I	1 X	5 μl
EcoR I	20 unit	1 μl
Sterile water		up to 50 μl

→ Incubate at 37°C for 1 hr

- Fast protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® FastCut Buffer	2 X	10 μl
EcoR I	20 unit	1 μl
Sterile water		up to 50 μl

→ Incubate at 37°C for 15 min

※We recommend 5-10 units of enzyme per μg DNA and 10-20 units for genomic DNA in a 1 h digest.