FastGene®

Restriction Enzyme Rsa I

IV 37° 65° CpG

Cat.#	Size	Conc.
FG-RsaI	1,000 units	10 units/µl

Store at -20℃

Supplied with:
10X FastGene® Buffer IV (FG-REB4)
10X FastGene® FastCut Buffer (FG-REBHF)
6X DNA Loading Buffer
Sterile water

Recognition site

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

ISO9001

Source: *Rhodopseudomonas sphaeroides*

Reaction conditions
1X FastGene® Buffer IV 37℃
1X FastGene® FastCut Buffer, 37℃

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

1X FastGene® Buffer IV
20 mM Tris-acetate (pH 7.9 at 25℃)
50 mM potassium acetate
10 mM magnesium acetate
100 µg/ml BSA

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

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

Dilution buffer:
FastGene® Diluent A

Heat Inactivation
Rsa I can be inactivated at 65℃ 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; 0.25 U.

Relative activity in FastGene® Buffers

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

Note
Cleavage of mammalian genomic DNA is blocked by CpG methylation partially overlapping the cleavage site. It is not active after 2-hr incubation.

Standard reaction condition
- Normal protocol

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

→ Incubate at 37℃ for 1 hr

- Fast protocol

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

→ Incubate at 37℃ 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

NIPPON Genetics EUROPE GmbH
www.nippongenetics.eu
www.n-genetics.com

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Store at -20℃

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Recognition site

5' ··· G T A C ··· 3'
3' ··· C A T G ··· 5'

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Reaction conditions
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1X FastGene® FastCut Buffer, 37℃

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

1X FastGene® Buffer IV
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50 mM potassium acetate
10 mM magnesium acetate
100 µg/ml BSA

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

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

Dilution buffer:
FastGene® Diluent A

Heat Inactivation
Rsa I can be inactivated at 65℃ 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; 0.25 U.

Relative activity in FastGene® Buffers
FastGene® Buffer I: 100%
FastGene® Buffer II: 100%
FastGene® Buffer III: 75%
FastGene® Buffer IV: 100%
FastGene® FastCut Buffer: 100%

Note
Cleavage of mammalian genomic DNA is blocked by CpG methylation partially overlapping the cleavage site. It is not active after 2-hr incubation.

Standard reaction condition
- Normal protocol

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

→ Incubate at 37℃ for 1 hr

- Fast protocol

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

→ Incubate at 37℃ 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