FastGene®

Restriction Enzyme Ava I

IV 37° 80° CpG

Cat.#	Size	Conc.
FG-AvaI	2,000 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: *Anabaena variabilis*

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 min 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
Ava I can be inactivated at 80℃ for 20 min.

Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: 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:	25%
FastGene® Buffer II:	100%
FastGene® Buffer III:	100%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

Note
It is an isoschizomer of BosB I. It requires at least 2 bases on each side of its recognition site for efficient cleavage. Cleavage of mammalian genomic DNA is blocked by CpG methylation.

Standard reaction condition
- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® Buffer IV	1 X	5 μl
Ava 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
Ava 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.

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

FastGene®

Restriction Enzyme Ava I

IV 37° 80° CpG

Cat.# FG-AvaI | Size 2,000 units | Conc. 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

5' ··· C Y C G R G ··· 3'
3' ··· G R G C Y C ··· 5'

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

ISO9001

Source: Anabaena variabilis

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 min 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
Ava I can be inactivated at 80℃ for 20 min.

Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: 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: 25%
FastGene® Buffer II: 100%
FastGene® Buffer III: 100%
FastGene® Buffer IV: 100%
FastGene® FastCut Buffer: 100%

Note
It is an isoschizomer of BosB I. It requires at least 2 bases on each side of its recognition site for efficient cleavage. Cleavage of mammalian genomic DNA is blocked by CpG methylation.

Standard reaction condition
- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® Buffer IV	1 X	5 μl
Ava 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
Ava 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.