FastGene

Restriction Enzyme Kpn I

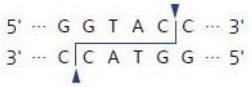
I 37℃ NO

Cat.#	Size	Conc.
FG-KpnI	4,500 units	10 units/μl

Store at -20℃

Supplied with: 10X FastGene® Buffer I (FG-REB1)
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: *Klebsiella pneumoniae* OK8

Reaction conditions
1X FastGene® Buffer I, 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 I
10 mM Bis Tris propane-HCl (pH 7.0 at 25℃)
10 mM $MgCl_2$
100 μg/ml BSA

Unit definition
One unit is defined as the amount of enzyme required for complete digestion of 1 μg pSK M2 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
No.

Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: Not 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:	50%
FastGene® Buffer III:	0%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

Note
It is an isoschizomer of Acc65 I. It produces a 3' extension of 4 bases, whereas Acc65 I produces a 5' extension of 4 bases. It is not sensitive to *dam*, *dcm*, or mammalian CpG methylation. Its activity varies with DNA substrates. Apart from lambda DNA, other DNA substrates require more enzymes (5-10 units per μg of DNA). Addition of 50 mM MgCl2 to the reaction greatly increases the efficiency of cleaving impure DNA.

Standard reaction condition
- Normal protocol

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

FastGene

Restriction Enzyme Kpn I

I 37℃ NO

Cat.# FG-KpnI | Size 4,500 units | Conc. 10 units/μl

Store at -20℃

Supplied with: 10X FastGene® Buffer I (FG-REB1)
10X FastGene® FastCut Buffer (FG-REBHF)
6X DNA Loading Buffer
Sterile water

Recognition site

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

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

ISO9001

Source: *Klebsiella pneumoniae* OK8

Reaction conditions
1X FastGene® Buffer I, 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 I
10 mM Bis Tris propane-HCl (pH 7.0 at 25℃)
10 mM $MgCl_2$
100 μg/ml BSA

Unit definition
One unit is defined as the amount of enzyme required for complete digestion of 1 μg pSK M2 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
No.

Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: Not 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: 50%
FastGene® Buffer III: 0%
FastGene® Buffer IV: 100%
FastGene® FastCut Buffer: 100%

Note
It is an isoschizomer of Acc65 I. It produces a 3' extension of 4 bases, whereas Acc65 I produces a 5' extension of 4 bases. It is not sensitive to *dam*, *dcm*, or mammalian CpG methylation. Its activity varies with DNA substrates. Apart from lambda DNA, other DNA substrates require more enzymes (5-10 units per μg of DNA). Addition of 50 mM MgCl2 to the reaction greatly increases the efficiency of cleaving impure DNA.

Standard reaction condition
- Normal protocol

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