FastGene®

Restriction Enzyme Sfi I

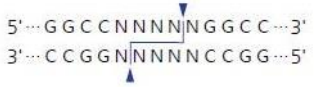
II 50° NO Dcm CpG

Cat.#	Size	Conc.
FG-SfiI	3,500 units	4 units/µl

Store at -20℃

Supplied with: 10X FastGene® Buffer II (FG-REB2)
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: *Streptomyces fimbriatus*

Reaction conditions
1X FastGene® Buffer II 50℃
1X FastGene® FastCut Buffer, 50℃

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

1X FastGene® Buffer II
10 mM Tris-HCl (pH 7.9 at 25℃)
50 mM NaCl
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 M3 at 50℃ 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: Conditionally 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:	25%
FastGene® Buffer II:	100%
FastGene® Buffer III:	25%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

Note
Cleavage is inhibited by *dcm* methylation and CpG methylation partially overlapping its cleavage site. Better cleavage occurs with long DNA such as chromosomal DNA. It requires two recognition sequences for efficient cleavage by homotetrameric Sfi I. Only 10% activity is obtained at 37℃. It is suitable to generate large DNA fragments from chromosome due to the rare occurrence of the recognition site.

Standard reaction condition
- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 µg	X µl
10X FastGene® Buffer II	1 X	5 µl
Sfi I	4 unit	1 µl
Sterile water		up to 50 µl

→ Incubate at 50℃ for 1 hr

- Fast protocol

Component	Final Conc.	Volume
Substrate DNA	1 µg	X µl
10X FastGene® FastCut Buffer	1 X	5 µl
Sfi I	4 unit	1 µl
Sterile water		up to 50 µl

→ Incubate at 50℃ 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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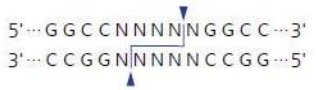

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