FastGene®

Restriction Enzyme Nae I

I 37 65 CpG

Cat.#	Size	Conc.
FG-NaeI	500 units	4 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: *Nocardia aerocolonigenes*

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 pBR322 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
Nae I can be inactivated at 65℃ 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; 0.5 U.

Relative activity in FastGene® Buffers
FastGene® Buffer I: 100%
FastGene® Buffer II: 100%
FastGene® Buffer III: 25%
FastGene® Buffer IV: 100%
FastGene® FastCut Buffer: 100%

Note
It is an isoschizomer of NgoM IV. Cleavage of mammalian genomic DNA is blocked by CpG methylation. It displays marked site preference, while NgoM IV has less site preference. Two recognition sequences are required for cleavage. One of the two acts as an effector site. It is sensitively affected by the locations of the recognition sequence. For example, if the two sites are too close, Nae I is not efficient in cleaving one of the two.

Standard reaction condition
- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® Buffer I	1 X	5 μl
Nae I	4 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
Nae I	4 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.