FastGene®

Restriction Enzyme Nde I

IV 37° 65°

Cat.#	Size	Conc.
FG-NdeI	4,000 units	20 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: *Neisseria denitrificans*

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
Nde I can be inactivated at 65℃ for 20 min.

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; 0.13 U.

Relative activity in FastGene® Buffers

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

Note
It is not affected by *dam*, *dcm*, or mammalian CpG methylation, but is sensitive to impurities in DNA. Its half-life is 15 min at 37℃. Long term incubation is not effective. Its recognition sequence includes ATG, and therefore it is possible to express a target protein without additional amino acids after cloning a Nde I-cleaved fragment to the initiation site of an expression vector.

Standard reaction condition
- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 µg	X µl
10X FastGene® Buffer IV	1 X	5 µl
Nde I	20 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
Nde I	20 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.

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Recognition site

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

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Methylation sensitivity
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CpG methylation: Not Sensitive

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

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