FastGene®

Restriction Enzyme Acu I

IV 37° 65°

Cat.#	Size	Conc.
FG-AcuI	300 units	5 units/µl

Store at -20℃

Supplied with:
- 10X FastGene® Buffer IV (FG-REB4)
- 10X FastGene® FastCut Buffer (FG-REBHF)
- S-adenosylmethionine
- 6X DNA Loading Buffer
- Sterile water

Recognition site

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

ISO9001

Source
Acinetobacter calcoaceticus

Reaction conditions at 37°C
1X FastGene® Buffer IV, 40 uM S-adenosylmethionine(SAM),
1X FastGene® FastCut Buffer, 40 uM S-adenosylmethionine(SAM),

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 to digest 1 µg of Lambda DNA in 1 hour at 37℃ in a total reaction volume of 50 µl.

Quality control
- Unit definition assay
- Overdigestion assay
- Endonuclease assay
- Extreme pure assay

Dilution buffer
FastGene® Diluent B

Heat Inactivation
Acu I can be inactivated at 65℃ for 20 min.

Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: Not sensitive

Relative activity in FastGene® Buffers

FastGene® Buffer I:	50%
FastGene® Buffer II:	50%
FastGene® Buffer III:	75%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

Note
Acu I requires S-adenosylmethionine (SAM) for optimal activity. SAM (in 0.005 M sulfuric acid and 10% Ethanol) stored at -20℃ is stable for at least 6 months. Reaction condition with excess enzyme, excess glycerol (>5%) or longterm incubation may result in star activity.

Standard reaction condition
- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 µg	X µl
10X FastGene® Buffer IV	1 X	5 µl
S-adenosylmethionine	40 µM	1 µl
Acu I	5 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
S-adenosylmethionine	40 µM	1 µl
Acu I	5 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

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5' ··· C T G A A G (N)16 ··· 3'
3' ··· G A C T T C (N)14 ··· 5'

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

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