FastGene®

Restriction Enzyme Hph I

(IV) (37℃) (65') (Dam)

Cat.#	Size	Conc.
FG-HphI	**1,000 units**	**5 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

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5' ··· G G T G A (N)₈ ··· 3'
3' ··· C C A C T (N)₇ ··· 5'
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For Research Use Only. Not for use in diagnostic procedures.

ISO9001

Dilution buffer:
FastGene® Diluent B

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

Methylation sensitivity
dam methylation: Conditionally 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: 75%
FastGene® Buffer III: 10%
FastGene® Buffer IV: 100%
FastGene® FastCut Buffer: 100%

Note
Activity is inhibited by *dam* methylation partially overlapping its recognition sequence.

Source: *Haemophilus parahaemolyticus*

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 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

Standard reaction condition
- Normal protocol

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

→ Incubate at 37℃ for 15 min

※'Standard conditions' is only a general recommendation. The experimental conditions should be adjusted according to the purpose and sample.