



Restriction Enzyme Tth111 I



Cat.# FG-Tth111	Size 400 units	Conc. 5 units/μl
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Store at -20°C

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.



Source: *Thermus thermophilus* 111

Reaction conditions

1X FastGene® Buffer IV 65°C
1X FastGene® FastCut Buffer, 65°C

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°C)
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 (Hind III digestion) at 65°C 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
Tth111 I	5 unit	1 μl
Sterile water		up to 50 μl

→ Incubate at 65°C for 1 hr

- Fast protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® FastCut Buffer	1 X	5 μl
Tth111 I	5 unit	1 μl
Sterile water		up to 50 μl

→ Incubate at 65°C 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.

Dilution buffer: FastGene® Diluent B

10 mM Tris-HCl (pH 7.4 at 25°C), 300 mM NaCl, 0.1 mM EDTA, 1 mM dithiothreitol, 500 μg/ml BSA, 50% glycerol.

Heat Inactivation

No.

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; 0.25 U.

Relative activity in FastGene® Buffers

FastGene® Buffer I:	25%
FastGene® Buffer II:	100%
FastGene® Buffer III:	100%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

Note

It produces a 5' extension of one nucleotide, which is more difficult to be ligated than blunt-ends. It is not affected by *dam*, *dcm*, or mammalian CpG methylation. Incubation at 37°C results in only 10% activity. Reaction condition of low salt, excess enzyme, excess glycerol (>5%) or high pH (>8.0) may result in star activity. Pfl I (an isoschizomer of Tth111 I) does not exhibit star activity.