



Restriction Enzyme Taq I



Cat.#	Size	Conc.
FG-Taql	4,000 units	20 units/µl

Store at -20°C

Supplied with: 10X FastGene® Buffer III (FG-REB3)
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: *Thermus aquaticus* YT1

Reaction conditions

1X FastGene® Buffer III 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 III

50 mM Tris-HCl (pH 7.9 at 25°C)
100 mM NaCl
10 mM MgCl₂
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 65°C for 1 hr in
50 µl reaction mixtures.

Quality control

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

Dilution buffer:

FastGene® Diluent B

Heat Inactivation

Taq I can be inactivated at 80°C 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; 0.5 U.

Relative activity in FastGene® Buffers

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

Note

Activity is inhibited by *dam* methylation partially overlapping its
recognition sequence. Incubation at 37°C results in 10% activity
obtained at 65°C.

Standard reaction condition

- Normal protocol

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



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Unit definition

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50 µl reaction mixtures.

Quality control

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

Dilution buffer:

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Heat Inactivation

Taq I can be inactivated at 80°C 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; 0.5 U.

Relative activity in FastGene® Buffers

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

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Taq I	20 unit	1 µl
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