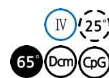


## FastGene® Restriction Enzyme Apa I



Cat.#	Size	Conc.
FG-Apal	5,000 units	50 units/μl

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.

ISO9001

**Source:** *Acetobacter pasteurianus* sub *pasteurianus*

### Reaction conditions

1X FastGene® Buffer IV, 25°C  
1X FastGene® FastCut Buffer, 25°C

### 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°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 25°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 A

### Heat Inactivation

Apa I can be inactivated at 65°C for 20 min.

### Methylation sensitivity

*dam* methylation: Not sensitive  
*dcm* methylation: Conditionally sensitive  
CpG methylation: Conditionally 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:	100%
FastGene® Buffer II:	25%
FastGene® Buffer III:	0%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

### Note

Incubation at 37°C results in 100% activity. However, it is unstable at 37°C with a half-life of only 30 min. Either *dcm* or CpG methylation overlapping its recognition sequence blocks cleavage of DNA. Salt over 50 mM is inhibitory.

### Standard reaction condition

- Normal protocol

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

→ Incubate at 25°C for 1 hr

- Fast protocol

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

→ Incubate at 25°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.

## FastGene® Restriction Enzyme Apa I

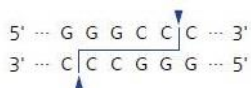


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- Overdigestion assay
- Endonuclease assay
- Extreme pure assay

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