



# Restriction Enzyme

## Ava II



Cat.#	Size	Conc.
FG-Avall	2,000 units	10 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.*



**Source:** *Anabaena variabilis*

### Reaction conditions

1X FastGene® Buffer IV 37°C  
1X FastGene® FastCut Buffer, 37°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 at 37°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
Ava II	10 unit	1 μl
Sterile water		up to 50 μl
→ Incubate at 37°C for 1 hr		
- Fast protocol		

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® FastCut Buffer	1 X	5 μl
Ava II	10 unit	1 μl
Sterile water		up to 50 μl
→ Incubate at 37°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 A

### Heat Inactivation

Ava II can be inactivated at 80°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; 0.25 U.

### Relative activity in FastGene® Buffers

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

### Note

Activity is not affected by supercoiled DNA structure. Cleavage of mammalian genomic DNA is blocked by CpG methylation overlapping its recognition sequence. It is markedly affected by impurities in DNA.