



# Restriction Enzyme

## Spe I



<b>Cat.#</b> FG-Spel	<b>Size</b> 500 units	<b>Conc.</b> 10 units/ $\mu$ l
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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:** *Sphaerotilus* species

### 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 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  $\mu$ g/ml BSA

### Unit definition

One unit is defined as the amount of enzyme required for complete digestion of 1  $\mu$ g pSK M2 at 37°C for 1 hr in 50  $\mu$ l reaction mixtures.

### Quality control

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

### Dilution buffer

FastGene® Diluent C

### Heat Inactivation

Spe I can be inactivated at 80°C for 20 min.

### 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  $\mu$ g substrate DNA for 16 hr; 0.25 U.

### Relative activity in FastGene® Buffers

FastGene® Buffer I:	50%
FastGene® Buffer II:	100%
FastGene® Buffer III:	75%
FastGene® Buffer IV:	100%
FastGene® FastCut Buffer:	100%

### Note

It generates a 5' CTAG extension, which can be efficiently ligated to DNA cleaved by Avr II, Nhe I, or Xba I. It is not affected by *dam*, *dcm*, or mammalian CpG methylation.

### Standard reaction condition

- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 $\mu$ g	X $\mu$ l
10X FastGene® Buffer IV	1 X	5 $\mu$ l
Spe I	10 unit	1 $\mu$ l
Sterile water		up to 50 $\mu$ l

→ Incubate at 37°C for 1 hr

- Fast protocol

Component	Final Conc.	Volume
Substrate DNA	1 $\mu$ g	X $\mu$ l
10X FastGene® FastCut Buffer	1 X	5 $\mu$ l
Spe I	10 unit	1 $\mu$ l
Sterile water		up to 50 $\mu$ l

→ Incubate at 37°C for 15 min

※We recommend 5-10 units of enzyme per  $\mu$ g DNA and 10-20 units for genomic DNA in a 1 h digest.