



Restriction Enzyme

Sac I



| Cat.# | Size | Conc. |
|--------|-------------|-------------|
| FG-SaI | 2,000 units | 20 units/μl |

Store at -20°C

Supplied with: 10X FastGene® Buffer I (FG-REB1)
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

Dilution buffer

FastGene® Diluent A

Heat Inactivation

Sac I can be inactivated at 65°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 μg substrate DNA for 16 hr; 0.13 U.

Relative activity in FastGene® Buffers

| | |
|---------------------------|------|
| FastGene® Buffer I: | 100% |
| FastGene® Buffer II: | 75% |
| FastGene® Buffer III: | 25% |
| FastGene® Buffer IV: | 75% |
| FastGene® FastCut Buffer: | 100% |

Note

High salts over 10 mM inhibit its activity. Use clean DNA for efficient cleavage. It is not affected by *dam*, *dcm*, or mammalian CpG methylation.

Source: *Streptomyces achromogenes*

Reaction conditions

1X FastGene® Buffer I, 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 I

10 mM Bis Tris propane-HCl (pH 7.0 at 25°C)

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 (Hind III digestion) 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 I | 1 X | 5 μl |
| Sac I | 20 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 |
| Sac I | 20 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.