



Restriction Enzyme Sac I



Cat.#	Size	Conc.
FG-SacI	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

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

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.

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.



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10X FastGene® Buffer III	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		

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