



Restriction Enzyme

Sca I



Cat.# FG-ScaI	Size 1,000 units	Conc. 4 units/μl
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Store at -20°C

Supplied with: 10X FastGene® Buffer III (FG-REB3)
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

Heat Inactivation

Sca 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-μg substrate DNA for 16 hr; 0.25 U.

Relative activity in FastGene® Buffers

FastGene® Buffer I:	Not recommended
FastGene® Buffer II:	Not recommended
FastGene® Buffer III:	100%
FastGene® Buffer IV:	Not recommended
FastGene® FastCut Buffer:	100%

FastGene® Buffer I, II and IV are not recommended due to star activity

Note

It is not affected by *dam*, *dcm*, and mammalian CpG methylation. Low-purity DNA is not cleaved efficiently. Reaction condition of low salt, excess enzyme, excess glycerol (>5%) or high pH (>8.0) may result in star activity. To avoid star activity, do not use Sca I in FastGene® buffer I, II, or IV.

Source: *Streptomyces caespitosus*

Reaction conditions

1X FastGene® Buffer III, 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 III

50 mM Tris-HCl (pH 7.9 at 25°C)
100 mM NaCl
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 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

Standard reaction condition

- Normal protocol

Component	Final Conc.	Volume
Substrate DNA	1 μg	X μl
10X FastGene® Buffer III	1 X	5 μl
Sca I	4 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
Sca I	4 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