FastGene®

Restriction Enzyme Sca I

III 37° 80°

Cat.#	Size	Conc.
FG-Scal	1,000 units	4 units/µl

Store at -20℃

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

Source: *Streptomyces caespitosus*

Reaction conditions
1X FastGene® Buffer III, 37℃
1X FastGene® FastCut Buffer, 37℃

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℃)
100 mM NaCl
10 mM $MgCl_2$
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℃ 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
Sca I can be inactivated at 80℃ 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.

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℃ for 1 hr

- Fast protocol

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Sca I	4 unit	1 µl
Sterile water		up to 50 µl

→ Incubate at 37℃ 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

NIPPON Genetics EUROPE GmbH
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5' ··· A G T A C T ··· 3'
3' ··· T C A T G A ··· 5'

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