

## Restriction Enzymes SgeI

Cat#: 8052481

### [Product Name]

Restriction Enzymes SgeI

### [Model & Size]

Product Name	Cat No.	Size	Component No.	Component Name	Component Size	Quantity
Restriction Enzymes SgeI	8052481	250 units	8052481-1	Restriction Enzymes SgeI (5 units/μL)	250 units	1 bottle
			8052481-2	10×SgeI Buffer	1 mL	1 bottle

### [Product Description]

SgeI cleaves DNA targets containing 5-methylcytosine on single-stranded or double-stranded DNA. The SgeI restriction enzyme recognizes the m<sup>5</sup>CNNG (9/13)<sup>^</sup> site and cleaves optimally at 37°C in its unique buffer. To ensure consistent performance, the enzyme storage buffer contains premixed BSA, which enhances enzyme stability and binds to contaminants that may be present in the DNA preparation.

### [Restriction Enzyme Site]

5'...m<sup>5</sup>C N N G(N)<sub>9</sub> ↓...3'

3'... G N N C(N)<sub>13</sub> ↑...5'\*

**Note\*:** SgeI can recognize and cleave DNA target sequences containing 5-mC sites. One-strand or double-strand methylation can be recognized.



### [Storage And Transportation]

Store at -25°C~-15°C for 24 months. Transported on blue ice.

### [Activity Definition]

1 unit is defined as the amount of enzyme required to digest 1 μg of λDNA in 50 μL the reaction at the optimal reaction temperature in 60 minutes.

### [Recommended Reaction Conditions]

1× SgeI Buffer;

Incubate at 37°C;

Refer to "Protocol for DNA Digestion" for reaction setup.

### [Heat Inactivation]

Incubation at 80°C for 20 minutes.

### [Quality Control]

#### Endonuclease Activity

The SgeI was tested in a reaction containing a supercoiled plasmid DNA substrate. After incubation for 4 hours at the optimal reaction temperature, there was no significant change of the DNA substrate by agarose gel electrophoresis.

#### Exonuclease Activity

The SgeI was tested in a reaction containing a DNA substrate. After incubation for 1 hours at the

optimal reaction temperature, there was no significant change of the DNA substrate by agarose gel electrophoresis.

## [Operating Instruction]

### 1. Protocol for DNA Digestion

① Combine the following reaction components on ice in the order indicated:

	DNA
DNA <sup>a</sup>	≤ 2 μg
Restriction Enzymes SgeI(5 units/μL)	1~5 units
10× SgeI Buffer	2 μL
ddH <sub>2</sub> O	Up to 20 μL

a. The reaction system can be scaled up or down. The reaction time is not recommended to exceed 1 hour;

② Gently mix or flick the tube wall to mix well (never vortex), then centrifuge instantaneously to collect reaction solution;

③ Incubate at 37°C for 1 hour;

④ Optional: Inactivate the enzyme by heating for 20 minutes at 80°C to terminate the reaction.


## [Precautions]


- The substrate requires at least 2 SgeI recognition sequences to be effectively digested.
- The complete cleavage of methylated DNA depends on the number of recognition sites of SgeI. Additionally, since the DNA products produced by recognition site cleavage can promote non-specific cleavage of SgeI, it is recommended to optimize the amount of SgeI enzyme for the cleavage reaction.


## [Methylation Effects On Digestion]

Dam	Dcm	CpG	EcoKI	EcoBI
No effect	Blocked or impaired	Blocked or impaired	No effect	No effect









## [Icon Descriptions]

 The enzyme's optimum reaction temperature is 37°C.

 The enzyme can be heat inactivated at by incubation 80°C for 20 minutes.

 3 hours incubation do not show star activity, but longer incubation may result in star activity.

## [Description Of Product Symbol]

Product Symbol	Description	Product Symbol	Description
	Catalog Number		Batch Code
	Date of Manufacture		Manufacturer
	Keep away from light		Temperature limit
	Consult instructions for use		Use-by date

## [Company Information]

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