

Restriction Enzymes BsmBI

Cat#: 8052451

[Product Name]

Restriction Enzymes BsmBI

[Model & Size]

Product Name	Cat No.	Size	Component No.	Component Name	Component Size	Quantity
Restriction Enzymes BsmBI	8052451	1000 units	8052451-1	Restriction Enzymes BsmBI (10 units/μL)	1000 units	1 bottle
			8052451-2	10× BsmBI Buffer	1 mL	1 bottle

[Product Description]

Restriction Enzymes BsmBI belongs to one of the Type IIS type internal cutase, which can identify non-text sequences and cut out the identification sequence. It is often used in Golden Gate assembly. The optimized reaction buffer enables Restriction Enzymes BsmBI to maximize its function. At the same time, the reaction buffer contains reorganized albumin, which can enhance the stability of multiple enzymes.

[Restriction Enzyme Site]

5'...C G T C T C (N)₁ ↓...3'

3'...G C A G A G (N)₅ ↑...5'

Isoschizomers*:Esp3I

***Isoschizomers may have different methylation sensitivities.**



[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 at 55°C.

[Recommended Reaction Conditions]

1× BsmBI Buffer ;

Incubate at 55°C;

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

[Heat Inactivation]

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

[Quality Control]

Prolonged Incubation / Star Activity Assay

A 20 μL reaction in BsmBI Buffer containing 1 μg of pUC19 Plasmid DNA and 10 units of Restriction Enzymes BsmBI incubated for 3 hours at 55°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. Longer incubation may result in star activity.

Enzyme Digestion-Ligation-Redigestion Test

At the optimal reaction temperature, the DNA was digested using 10 units of Restriction Enzymes

BsmBI, and then the digestion product was recovered. The DNA fragments can be religated using an appropriate amount of T4 DNA Ligase at 22°C. After the ligation product is recovered again, the ligation product can be recut using Restriction Enzymes BsmBI.

DNase Residual Detection

The 10 units Restriction Enzymes BsmBI and the dual-chain DNA substrate were incubated for 16 h at 37°C, no change in double-stranded DNA substrate was detected by agarose gel electrophoresis.

[Operating Instruction]

1. Protocol for Fast DNA Digestion

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

Reagent	Dosage
DNA ^a	≤ 1 µg
Restriction Enzymes BsmBI	10 units
10× BsmBI Buffer	5 µL
ddH ₂ O	To 50 µL

a: DNA should be free of phenol, chloroform, ethanol, EDTA, detergents or high concentrations of salts, otherwise enzyme activity will be affected;

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

③ Incubate at 55°C for 15 minutes to 1 hour. It is generally recommended to incubate 5 to 10 units of enzyme per µg plasmid DNA and 10 to 20 units of enzyme per µg genomic DNA for 1 hour. If overnight enzyme digestion reaction is required, please adjust the enzyme amount to 1 unit;

④ The enzyme can be heat inactivated at by incubation 80°C for 20 minutes.

⑤ The combined volume of the enzymes in the reaction mixture should not exceed 1/10 of the total reaction volume, avoiding excessive glycerin in the enzymes caused by the star number activity;

⑥ BsmBI Buffer additives (such as glycerin, salt) are the same as pollutants in the substrate solution (such as salt, EDTA, or ethanol, etc.). The smaller the reaction volume, the stronger the enzyme cutting reaction inhibitory effect;

⑦ Small system recommendation

DNA	0.1 µg	0.5 µg
Restriction Enzymes BsmBI	1 unit	5 units
10× BsmBI Buffer	1 µL	2.5 µL
ddH ₂ O	Up to 10 µL	Up to 25 µL
Total	10 µL ^b	25 µL

b. To avoid evaporation, the incubation time of the 10 µL reaction system should not exceed 1 hour.


[Number Of Recognition Sites In DNA]


λDNA	ΦX174	pBR322	pUC57	pUC18/19	M13mp18/19	Adeno2
14	0	1	2	2	1	21


[Methylation Effects On Digestion]


Dam	Dcm	CpG	EcoKI	EcoBI
No effect	No effect	Blocked	No effect	Impaired


[Icon Descriptions]

 The enzyme's optimum reaction temperature is 55°C.









 Cleavage with this restriction enzyme may be blocked or impaired when the substrate DNA is methylated by the CpG methylase.

 Cleavage with this restriction enzyme may be blocked or impaired when the substrate DNA is methylated by the EcoBI methylase.

 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]

Manufacturer and after-sales service unit Name: Shenzhen Dakewe Bio-engineering Co., Ltd.

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