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Sge I

1 Contents

Component	HY-KE7049-250U
Sge I (5 U/μL)	50 μL
10× Sge I Buffer	1 mL

2 Introduction

Sge I restriction enzyme recognizes and cleaves DNA targets containing 5-methylcytosine on one or both DNA strands, and cuts best at 37°C. To ensure consistent performance, this product contains premixed BSA, which enhances the stability of Sge I and binds contaminants that may be present in DNA preparations.

Cleavage site

5'...m^5 C N N G $(N)_9$...3'

3'... G N N C $(N)_{13}$...5'

3 General Protocol

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

ddH_2O	to 20 μL
10× Sge I Buffer	2 μL
DNA	2 μL (0.5-2 μg)
Sge I	0.2-1 μL
Total	20 μL

Note: The digestion reaction may be scaled either up or down. Digestion for more than 1 hour is not recommended.

2. Mix gently and spin down.
3. Incubate at 37°C for 1 h.
4. (Optional) Inactivate the enzyme by heating for 20 min at 80°C.

4 Unit Definition

One unit is defined as the amount of Sge I at which no change in the fragmentation pattern is observed with further increase of enzyme. For unit definition 1 μg of pUC19 DNA isolated from E.coli Dcm^+ strain was incubated with Sge I for 1 hour at 37°C in 50 μL of recommended reaction buffer.

5 Methylation Effects on Digestion

Dam	Dcm	CpG	EcoKI	EcoBI
no effect	always cleaves DNA methylated by Dcm methyltransferase	cleaves targets overlapping with CpG methylated sequences	no effect	no effect

6 Storage

-20°C, 2 years.

7 Precautions

1. At least two copies of Sge I recognition site are required for an efficient cleavage.
2. Amount of the enzyme required for complete digestion of methylated DNA depends on the number of Sge I recognition sites. DNA cleavage products generated by target site cleavage facilitate the nonspecific cleavage by Sge I. Therefore, optimization of enzyme amount is recommended for DNA cleavage.
3. This product is for R&D use only, not for drug, household, or other uses.
4. For your safety and health, please wear a lab coat and disposable gloves to operate.