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BspQ I

1 Contents

Component	HY-KE7048-500U
BspQ I (10 U/μL)	50 μL
10× BspQ I Buffer	1 mL

2 Introduction

BspQ I is one of the endonucleases of Type IIs that recognize non-palindromic sequences and cut outside of the recognition sequence, and is commonly used in Golden Gate assembly. BsmB I cuts best at 50°C. To ensure consistent performance, this product contains premixed BSA, which enhances the stability of BsmB I and binds contaminants that may be present in DNA preparations.

Isoschizomers: Sap I, Lgu I, PciS I.

Cleavage site

5′...G C T C T T C $(N)_1$▼...3′

3′...C G A G A A G $(N)_4$▲...5′

3 General Protocol

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

ddH_2O	to 50 μL
10× BspQ I Buffer	5 μL
DNA	1 μg
BspQ I	1 μL
Total	50 μL

Note: DNA should be free of contaminants such as phenol, chloroform, alcohol, EDTA, detergents or excessive salts.

2. Mix gently and spin down.
3. Incubate at 50°C for 15 min-1 h.
4. (Optional) Inactivate the enzyme by heating for 20 min at 80°C. Or remove enzyme by using a spin column or phenol/chloroform extraction.

4 Unit Definition

One unit is defined as the amount of BspQ I required to digest 1 μg of λDNA in 1 hour at 50°C in a total reaction volume of 50 μL.

5 Number of Recognition Sites in DNA

λDNA	ΦX174	pBR322	pUC57	pUC18/19	SV40	M13mp18/19	Adeno2
10	1	1	1	1	0	0	7

6 Methylation Effects on Digestion

Dam	Dcm	CpG	EcoKI	EcoBI
no effect	no effect	no effect	no effect	no effect

7 Storage

-20°C, 2 years.

8 Precautions

1. Enzyme volume should not exceed 10% of the total reaction volume to prevent star activity due to excess glycerol.
2. Additives in the restriction enzyme storage buffer (e.g., glycerol, salt) as well as contaminants found in the substrate solution (e.g., salt, EDTA, or alcohol) can be problematic in smaller reaction volumes.
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.