

BstZ171



1-800-632-7799
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R0594S 002121114111

R0594S



1,000 units **Lot: 0021211** **Exp: 11/14**

5,000 U/ml **Store at -20°C**

Recognition Site:

5'...GTATAC...3'
3'...CATATG...5'

Source: *Bacillus stearothermophilus* 38M
(Z. Chen)

Supplied in: 200 mM KCl, 10 mM Tris-HCl
(pH 7.5), 0.1 mM EDTA, 1 mM DTT, 400 µg/ml
BSA and 50% glycerol.

New Reaction Buffer

Reagents Supplied with Enzyme:
10X NEBuffer 4.

Reaction Conditions: 1X NEBuffer 4.
Incubate at 37°C.

1X NEBuffer 4:
50 mM potassium acetate
20 mM Tris-acetate
10 mM magnesium acetate
1 mM dithiothreitol
pH 7.9 @ 25°C

Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA in 1 hour at 37°C in a total reaction volume of 50 µl.

Diluent Compatibility: Diluent Buffer B
300 mM NaCl, 10 mM Tris-HCl, 0.1 mM EDTA,
1 mM DTT, 500 µg/ml BSA and 50% glycerol
(pH 7.4 @ 25°C).

Quality Control Assays

Ligation: After 20-fold overdigestion with BstZ171, approximately 75% of the DNA fragments can be ligated with T4 DNA Ligase

(at a 5' termini concentration of 1–2 µM) at 16°C. Of these ligated fragments, > 95% can be recut.

16-Hour Incubation: A 50 µl reaction containing 1 µg of DNA and 8 units of enzyme incubated for 16 hours resulted in the same pattern of DNA bands as a reaction incubated for 1 hour with 1 unit of enzyme.

Endonuclease Activity: Incubation of 25 units of enzyme with 1 µg φX174 RF I DNA for 4 hours at 37°C in 50 µl reaction buffer resulted in < 10% conversion to RF II.

Exonuclease Activity: Incubation of 1000 units of enzyme with 1 µg sonicated ³H DNA (10⁵ cpm/µg) for 4 hours at 37°C in 50 µl reaction buffer released < 0.12% radioactivity.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1 NR
NEBuffer 2 NR
NEBuffer 3 100%
NEBuffer 4 100%

NEBuffers 1 and 2 are **not** recommended (NR) due to star activity.

When using a buffer other than the optimal (supplied) NEBuffer, it may be necessary to add more enzyme to achieve complete digestion.

Survival in a Reaction: A minimum of 1 unit is required to digest 1 µg of substrate DNA in 16 hours.

Heat Inactivation: No

Notes: BstZ171 is an isoschizomer of Bst11071. Cleavage of mammalian genomic DNA is blocked by some combinations of overlapping CpG methylation.

Conditions of low ionic strength, high enzyme concentration, glycerol concentration > 5%, or pH > 8.0 may result in star activity.

= Time-Saver™ Qualified (See www.neb.com for details).

CERTIFICATE OF ANALYSIS

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