

BmtI



1-800-632-7799
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R0658S 002120914091

R0658S

300 units 10,000 U/ml Lot: 0021209

RECOMBINANT Store at -20°C Exp: 9/14

Recognition Site:

5'... GCTAG[▼]C... 3'
3'... C[▲]GATCG... 5'

Source: An *E. coli* strain that carries the cloned BmtI gene from *Bacillus megaterium* S2 (S.K. Degtyarev)

More Units

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More Units

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

Reagents Supplied with Enzyme:
10X NEBuffer 2

Reaction Conditions: 1X NEBuffer 2
Incubate at 37°C.

1X NEBuffer 2:
50 mM NaCl
10 mM Tris-HCl
10 mM MgCl₂
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 pXba 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).

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Quality Control Assays

Ligation: After 10-fold overdigestion with BmtI, > 95% of the DNA fragments can be ligated with T4 DNA Ligase at 16°C. Of these ligated fragments, > 95% can be recut.

16-Hour Incubation: A 50 µl reaction containing 1 µg of DNA and 100 units of enzyme incubated for 16 hours resulted in no degradation of the DNA bands due to nonspecific nucleases. However, fragments produced by noncanonical cleavage due to star activity may be observed with 10 units of enzyme in similar conditions.

Exonuclease Activity: Incubation of a 50 µl reaction containing 50 units of BmtI with 1 µg of a mixture of single and double-stranded [³H] *E. coli* DNA (200,000 cpm/µg) for 4 hours at 37°C released < 0.1% of the total radioactivity.

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Enzyme Properties

Activity in NEBuffers:
NEBuffer 1 25%
NEBuffer 2 **100%**
NEBuffer 3 25%
NEBuffer 4 50%

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 0.5 unit is required to digest 1 µg of substrate DNA in 16 hours.

Heat Inactivation: 65°C for 20 minutes.

Note: BmtI is a neoschizomer of NheI.

Not sensitive to *dam*, *dcm* or mammalian CpG methylation.

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

CERTIFICATE OF ANALYSIS

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