BamHI



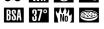












10.000 units 20.000 U/ml Lot: 0941208 RECOMBINANT Store at -20°C Exp: 8/14

Recognition Site:

5'... G A T C C ... 3' 3′... C C T A G₄G ... 5′

Source: An E. coli strain that carries the cloned BamHI gene from Bacillus amyloliquefaciens H (ATCC 49763)

> Also Available In High-Fidelity (HF™) Format

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM dithiothreitol, 200 ug/ml BSA and 50% glycerol.

Reagents Supplied with Enzyme: 10X NEBuffer 3, 100X BSA.

Reaction Conditions: 1X NEBuffer 3, supplemented with 100 µg/ml BSA. Incubate at 37°C.

1X NEBuffer 3:

100 mM NaCl 50 mM Tris-HCI 10 mM MaCl 1 mM DTT pH 7.9 @ 25°C

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

Diluent Compatibility: Diluent Buffer A 50 mM KCI, 10 mM Tris-HCI, 0.1 mM EDTA, 1 mM dithiothreitol, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C).

Quality Control Assays

Ligation: After 50-fold overdigestion with BamHI. > 95% 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 100 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.

Exonuclease Activity: Incubation of 100 units of enzyme with 1 µg sonicated 3H DNA (105 cpm/ug) for 4 hours at 37°C in 50 ul reaction buffer released < 0.1% radioactivity.

Endonuclease Activity: Incubation of 100 units of enzyme with 1 µg ϕ X174 RF I DNA for 4 hours at 37°C in 50 ul reaction buffer resulted in < 10% conversion to RF II.

Blue/White Screening Assay: This enzyme has been tested to determine the integrity of the DNA ends produced after digestion with an excess

of enzyme. An appropriate vector is digested at a unique site within $lacZ^{\alpha}$ gene with a 10-fold excess of enzyme, ligated, transformed and plated on XGal/IPTG/Amp plates. Successful expression of β-galactosidase is a function of how intact its gene remains after cloning, an intact gene gives rise to a blue colony, an interrupted gene (i.e. degraded DNA end) gives rise to a white colony. Enzymes must produce fewer than 3% white colonies to be Blue/White Certified.

Enzyme Properties

Activity in NEBuffers: NEBuffer 1 75% NEBuffer 2 100% NEBuffer 3 100% NEBuffer 4 100%

Survival in a Reaction: Intermediate activity. Suitable for extended digestion, but < 8 hours.

Heat Inactivation: No.

Plasmid Cleavage: Number of units required to cleave 1 µg of supercoiled plasmid DNA in one hour: 2 units.

(See other side)

CERTIFICATE OF ANALYSIS

BamHI



1-800-632-7799 info@neb.com www.neb.com

R0136S







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

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

Companion Products:

BamHI-HF™

#R3136S 5,000 Units #R3136L 50,000 Units

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

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