BsrGI

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

R0575S 00812081408 1

R0575S

NEB2 BSA 37° Yes

1,000 units **10,000 U/ml** **Lot: 0081208**

RECOMBINANT **Store at –20°C** **Exp: 8/14**

Recognition Site:

5′. . . T▼GTACA . . . 3′
3′. . . ACATG▲T . . . 5′

Source: An *E. coli* strain that carries the cloned BsrGI gene from *Bacillus stearothermophilus* GR75 (Z. Chen)

Supplied in: 50 mM NaCl, 10 mM Tris-HCl (pH 7.6), 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA and 50% glycerol.

Now Recombinant

Reagents Supplied with Enzyme:
10X NEBuffer 2, 100X BSA.

Reaction Conditions: 1X NEBuffer 2, supplemented with 100 µg/ml BSA. Incubate at 37°C.

1X NEBuffer 2:
50 mM NaCl
10 mM Tris-HCl
10 mM $MgCl_2$
1 mM DTT
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 A
50 mM KCl, 10 mM Tris-HCl, 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C).

Quality Control Assays

Ligation: After 10-fold overdigestion with BsrGI, > 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 (10^5 cpm/µg) for 4 hours at 37°C in 50 µl reaction buffer released < 0.1% radioactivity.

Endonuclease Activity: Incubation of 100 units of enzyme with 1 µg ϕX174 RF I DNA for 4 hours at 37°C in 50 µl reaction buffer resulted in < 5% conversion from supercoiled to linear.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1	25%
NEBuffer 2	**100%**
NEBuffer 3	10%
NEBuffer 4	100%

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

Heat Inactivation: 80°C for 20 minutes

Note: BsrGI is an isoschizomer of Bsp1407I.

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

Incubation of BsrGI at 60°C will result in a 2-fold increase in activity.

U.S. Patent No. 6,869,786

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

CERTIFICATE OF ANALYSIS

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