

# BsiHKAI



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R0570S 005120814081

## R0570S

NEB4 BSA 65° No1

1,000 units Lot: 0051208 Exp: 8/14

10,000 U/ml Store at -20°C

### Recognition Site:

5'... G W G C W<sup>▼</sup> C ... 3'  
3'... C<sup>▲</sup> W C G W G ... 5'

Single Letter Code: W = A or T

Source: *Bacillus stearothermophilus* (P. Shaw)

New Reaction Buffer

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New Reaction Buffer

Supplied in: 100 mM NaCl, 50 mM Tris-HCl (pH 7.6), 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA and 50% glycerol.

**Reagents Supplied with Enzyme:**  
10X NEBuffer 4, 100X BSA.

**Reaction Conditions:** 1X NEBuffer 4, supplemented with 100 µg/ml BSA.  
**Incubate at 65°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 65°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 BsiHKAI, > 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 <sup>3</sup>H DNA (10<sup>5</sup> cpm/µg) for 4 hours at 65°C in 50 µl reaction buffer released < 0.1% radioactivity.

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### Enzyme Properties

**Activity in NEBuffers:**  
NEBuffer 1 50%  
NEBuffer 2 100%  
NEBuffer 3 100%  
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:** Not recommended for digest over 1 hour.

**Heat Inactivation:** No

**Note:** BsiHKAI is an isoschizomer of HgiAI.

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

Incubation at 37°C results in 5% activity.

CERTIFICATE OF ANALYSIS

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