

# BsaWI



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R0567S 018120814081

## R0567S



**250 units**      **10,000 U/ml**      **Lot: 0181208**  
**RECOMBINANT**      **Store at -20°C**      **Exp: 8/14**

### Recognition Site:

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

**Single Letter Code:** W = A or T

**Source:** An *E. coli* strain that carries the BsaWI gene from *Bacillus stearothermophilus* W1718 (Z. Chen)

**2.5X More Units, Higher Concentration**

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Supplied in: 50 mM NaCl, 10 mM Tris-HCl (pH 7.4), 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 60°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 60°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).

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### Quality Control Assays

**Ligation:** After 10-fold overdigestion with BsaWI, > 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 50 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 50 units of enzyme with 1 µg sonicated <sup>3</sup>H DNA (10<sup>5</sup> cpm/µg) for 4 hours at 60°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    50%  
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:** Suitable for an extended or overnight digestion. Enzyme is active > 8 hours.

**Heat Inactivation:** 80°C for 20 minutes.

**Note:** BsaWI is an isoschizomer of BetI.

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

Incubation at 37°C results in 20% activity.

U.S. Patent No. 6,586,220

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



CERTIFICATE OF ANALYSIS

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