**ET SSB**

<table>
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<tr>
<th>50 µg</th>
<th>500 µg/ml</th>
<th>Lot: 0031403</th>
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**RECOMBINANT** Store at −20°C Exp: 3/15

**Description:** ET SSB (Extreme Thermostable Single-Stranded DNA Binding Protein) is a single-stranded DNA binding protein isolated from a hyperthermophilic microorganism. ET SSB can be used in applications that require extremely high temperature conditions, such as nucleic acid amplification and sequencing.

**Source:** An *E. coli* strain that carries the cloned *ssb* gene from a hyperthermophilic organism.

### Applications:
- Improve the processivity of DNA polymerase (1)
- Stabilization and marking of ssDNA structure (2)
- Increase the yield and specificity of PCR reactions (3–7)
- Increase the yield and processivity of RT during RT-PCR (8–9)
- Improve DNA sequencing through regions with strong secondary structure (6)
- Enhance the RecA activity for ssDNA binding and strand transfer (10,11)

### Quality Assurance:
ET SSB is purified free of contaminants including contaminating endonucleases and exonucleases. Each lot is tested for ssDNA binding activity and is visually determined to be >95% pure on an SDS-polyacrylamide gel.

### Quality Control Assays

#### Exonuclease Activity:
Incubation of 20 µg ET SSB for 4 hours at 65°C in 50 µl reaction buffer containing 50 mM potassium acetate, 20 mM tris-acetate, 10 mM magnesium acetate and 1 mM dithiothreitol (pH 7.9 at 25°C), with a mixture of single and double-stranded [3H] *E. coli* DNA (200,000 cpm/µg) released <0.1% of the total radioactivity.

#### Endonuclease Activity:
Incubation of 7 µg ET SSB for 4 hours at 65°C in 50 µl reaction buffer containing 50 mM potassium acetate, 20 mM tris-acetate, 10 mM magnesium acetate and 1 mM dithiothreitol (pH 7.9 at 25°C), with 1 µg λ DNA yielded a clear and sharp band on an agarose gel.

### Notes On Use:
ET SSB is active in any polymerase buffer. Add 200 ng of ET SSB per 50 µl reaction.

References: