

ET SSB

REF: YS0137

Storage Condition

-20°C

Components

Component	Amount
ET SSB (500 µg/ml)	100 µg

Description

ET SSB (Extreme Thermostable single-strand DNA Binding Protein) is a single-stranded DNA binding protein isolated from thermophilic microorganisms, with a molecular weight of 16 kDa. It retains full activity even after incubation at 95°C for 60 minutes. Due to its extremely high thermal stability, ET SSB can be used in applications that require high-temperature conditions, such as nucleic acid amplification and sequencing.

Applications

1. Enhance the continuous synthesis ability of DNA polymerase.
2. Stabilize and label ssDNA structures.
3. Increase the yield and specificity of PCR and isothermal amplification reactions.
4. Increase the yield and conversion rate of RT in RT-PCR.
5. Improve DNA sequencing in regions with strong secondary structures.
6. Enhance RecA's activity in binding to and transferring ssDNA.

Storage Buffer

20 mM Tris-HCl (pH 7.5), 200 mM NaCl, 0.5 mM DTT, 1 mM EDTA, and 50% glycerol.

Quality Control Assays

Protein Purity

The protein is ≥95% pure as determined by SDS-PAGE analysis using Coomassie Blue staining.

Endonuclease Activity

A 50 µl reaction containing 200 ng of supercoiled plasmid and 0.5 µg of ET SSB incubated for 4 hours at 37°C results in <10% conversion to the nicked or linearized form as determined by agarose gel electrophoresis.

Non-specific Nuclease Activity

A 50 µl reaction containing 15 ng of dsDNA fragments and 0.5 µg of ET SSB incubated for 16 hours at 37°C results in no detectable degradation of the dsDNA fragments as determined by agarose gel electrophoresis.

Residual Host DNA

The product was tested by TaqMan qPCR with primers specific for the *E.coli* 16S rDNA, and the results show that the *E.coli* genome residues less than 10 copies.

Usage

1. ET SSB is active in any polymerase buffer.
2. Add 50–200 ng of ET SSB per 50 µl reaction volume.