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Certificate of Analysis

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T4 Gene 32 Protein

Catalog No: 1170

Lot No: See Product Label

Package Size: See Product Label

Concentration: See Product Label

Storage Conditions: Store at -20°C

Description

- Single-stranded specific DNA binding protein (1)
- Helix destabilizing protein (1)
- Ultrapure recombinant protein

Applications

- Reduces formation of secondary DNA structures
- Prevents degradation of ssDNA by nucleases
- Prevents inhibition of PCR by template NDA contaminants (2)
- Replaces Hot Start method during assembling PCR reaction (4,7)
- Improves the efficiency of DNA amplification by *Taq* Polymerase (3,4,5,6)
- Enhances the fidelity of modified T4 Polymerase (8)
- Stabilizes single-stranded regions of DNA for site-specific mutagenesis
- Aids completion of restriction enzyme digestion
- Improves the efficiency of DNA synthesis by T4 DNA Polymerase (8)

Storage Buffer

20 mM Tris-HCl (pH 8.0)
100 mM NaCl
1 mM EDTA
1 mM dithiothreitol
50% glycerol

Quality Control

DNase, double-stranded: Incubation of 1, 2, and 4 µg of protein with 0.03 µg of [³²P] lambda DNA for 1 hour at 37°C resulted in the release of ≤1.0 slope of %-end label released per µg of protein. Reaction volume of 20 µl.

DNase, single-stranded: Incubation of 1, 2, and 4 µg of protein with 0.03 µg of [³²P] lambda DNA for 1 hour at 37°C resulted in the release of ≤1.0 slope of %-end label released per µg of protein. Reaction volume of 20 µl.

3' Exonuclease: Incubation of 1, 2, and 4 µg of protein and 5 pmol ends of lambda/Taq I fragments (3' labeled with Klenow exo- and [³H] dCTP), incubated for 1 hour at 37°C resulted in the release of ≤1.0 slope of %-end label released per µg of protein. Reaction volume of 50 µl.

5' Exonuclease: Incubation of 1, 2, and 4 µg of protein and 0.25 µg of 5' ends of [³²P] lambda/Hae III fragments, incubated for 1 hour at 37°C resulted in the release of ≤1.0 slope of %-end label released per µg of protein. Reaction volume of 50 µl.

Purity: > 95% pure, as judged by SDS-polyacrylamide gel electrophoresis.

References

- (1) Greipel, J. Urbanke, C. and Maass, G. (1989) in: Saenger, W., Heinemann, U. (Eds.) pp.61-86 (2)
- Kreider, C.A. (1996) *Applied Environ. Micro.* 62, 1102-1106 (3) Dabrowski, S., Olszewski, M., Platek, R. and Kur, J. (2002) *Protein Expr. Purif.* 26, 131-138 (4) Dabrowski, S. and Kur, J. (1999) *Protein Expr. Purif.* 16, 96-102 (5) Rapley, Mol. Biotech. 2 (1994) 295-298 (6) Schwarz, K., Hansen-Hagge, T. and Bartram, C. (1989) *Nucleic Acids Res.* 18, 1079 (7) Barski, P., Piechowicz, L., Galinski, K. and Kur, J. (1996) *Mol. Cell Probes* 10, 471-475 (8) Sandhu, D.K. and Keohavong, P. (1994) *Gene* 144, 53-58

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