T4 gene 32 protein

Instruction for Use

Cat. No./Spec.: P1121/100 μL

Concentration: 10mg/mL

Product Description

T4 gene 32 protein is a single-stranded DNA-binding protein encoded by the T4 phage gene 32, with a molecular weight of 33 KDa. It is essential for T4 phage DNA replication and repair, and plays a crucial structural role in the coordination and stabilization of transiently formed single-stranded DNA regions during the process of Rb69 phage DNA replication. The protein is also widely used to stabilize and label single-stranded regions for the observation of intracellular DNA structure by electron microscopy. T4 gene 32 protein can promote digestion reactions of restriction endonucleases, enhance the efficiency of reverse transcription in RT-PCR, and enhance the activity of DNA polymerases. It can also be used for the reaction of recombinase polymerase amplification (RPA).

Components

Component	P1121
T4 gene 32 protein (10mg/mL)	100 μL

Storage Condition

Store at -20°C.

Scope of Application

1. In RT-PCR, increasing the yield and extension ability of reverse transcription;
2. When conducting PCR with soil samples, increasing the yield and specificity of the target fragments;
3. Stabilizing and labeling single-stranded DNA structures.

Quality Control

Protein purity detection: using SDS-PAGE gel electrophoresis with purity no lower than 95%.

Nuclease activity assay: 10 μg of T4 gene 32 protein was incubated with 200 ng of supercoiled plasmid DNA at 37℃ for 4 hours. Agarose gel electrophoresis was used to detect that less than 10% of the plasmid DNA was converted to nicked or linear forms.

Nonspecific nuclease activity assay: 10 μg of T4 gene 32 protein was incubated with 15 ng of double-stranded DNA fragments at 37°C for 16 hours. Agarose gel electrophoresis was used to detect that there was no change in the double-stranded DNA substrate.

RNase activity assay. 10 μg of T4 gene 32 protein was incubated with 500 ng of total RNA at 37°C for 1 hour, and agarose gel electrophoresis was used to detect that over 90% of the RNA remained intact.

Host DNA residue detection: a specific primer probe set for the 16S rDNA of *Escherichia coli* was used, and fluorescence quantitative PCR was used to detect 10 μg T4 gene 32 protein. The residual host genomic DNA of Escherichia coli was less than 10 copies.

Heat Inactivation

65°C for 20 minutes

This product is for research use only.