Rb69 gene 32 protein

REF: EG20128S

Storage Conditions

-20℃

Components

Component	Amount
Rb69 gene 32 protein (10 mg/ml)	100 μl

Description

Rb69 gene 32 protein is a single-strand DNA binding protein encoded by the Rb69 bacteriophage gene 32. It has a molecular weight of 37 kDa and is an essential component for DNA replication and repair in the Rb69 bacteriophage. It cooperatively binds to and stablizes transiently formed regions of ssDNA and plays an important structural role during Rb69 phage replication. It also has been used extensively to stabilize and mark regions of ssDNA for electron microscopic examination of intracellular DNA structures. Rb69 gene 32 protein can facilitate restriction enzyme digestion reactions, improve efficiency of reverse transcription in RT-PCR, enhance DNA polymerase activity, and can be used in recombinase polymerase amplification (RPA) reactions.

Applications

1. Increased yield and extension ability of reverse transcription in RT-PCR.
2. Increased yield and specificity of target fragments in PCR of soil samples.
3. Stabilize and label ssDNA structures.

Quality Control Assays

Protein Purity

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

Endonuclease Activity

A 20 μl reaction containing 200 ng of supercoiled plasmid and 10 μg of Rb69 gene 32 protein incubated for 4 hours at 37℃ results in <10% conversion to the nicked or linearized form as determined by agarose gel electrophoresis.

Non-specific Nuclease Activity

A 20 μl reaction containing 15 ng of dsDNA fragments and 10 μg of Rb69 gene 32 protein incubated for 16 hours at 37℃ results in no detectable degradation of the dsDNA fragments as determined by agarose gel electrophoresis.

RNase Activity

A 10 μl reaction containing 500 ng of RNA and 10 μg of Rb69 gene 32 protein incubated for 1 hour at 37℃ results in >90% of the substrate RNA remains intact as determined by agarose.

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.

Heat Inactivation

Incubation at 65℃ for 20 minutes.

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