Tinzyme Co., Limited

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Bsu

Product Number: RPA007

Shipping and Storage

Store at -20℃ for two years (it is recommended to store separately to avoid repeated freezing and thawing affecting protein activity).

Description

Bsu DNA polymerase is a DNA isothermal amplification polymerase with chain displacement activity, mainly used for RPA recombinase amplification. The protein DNA complex formed by the combination of recombinant enzyme UvsX and primers can search for homologous sequences in double stranded DNA; Once the primer locates the homologous sequence, a chain exchange reaction occurs, and Bsu DNA polymerase initiates DNA synthesis, exponentially amplifying the target region on the template. The replaced DNA strand binds to SSB to prevent further substitution.

Our company provides Bsu DNA polymerase for gene recombinant expression, with a molecular weight of~68kDa, high activity, and good stability. This product is a large fragment of Bsu DNA polymerase, derived from thermophilic Bacillus subtilis. It is obtained by truncating the first 296 AA of the Bacillus subtilis DNA polymerase (Bsu) I gene. This enzyme retains the 5 '-3' polymerase activity of Bsu I, but lacks the 5 '-3' exonuclease domain. The large fragment itself lacks 3 '-5' exonuclease activity and can be used for recombinant enzyme amplification.

We constructed an efficient RPA isothermal amplification system using self-produced large fragments of Bsu DNA polymerase (as shown in the figure below).

A RPA isothermal amplification system was constructed using self-produced recombinant proteins such as Uxsx, UxsX, gp32, Bsu, etc.

M is a marker, and 1, 2, 3, and 4 are different RPA constant temperature amplification products.

Application

RPA isothermal amplification; RPA chain substitution for DNA synthesis; Random primer labeling method; Synthesis of the second strand of cDNA; The suffix of a single dA.

Specification

1. **Dosage form:** liquid or freeze-dried powder
2. **Storage buffer:** 50mM Tris HCl, 50mM KCl, 1mM DTT, 0.1mM EDTA, 20% glycerol, pH 7.5

3. **Molecular weight:** around 68 KDa (detected by SDS-PAGE)
4. **Purity:** ≥ 90% (detected by SDS-PAGE)
5. **Thermal deactivation:** 75℃, 20min

Note

1. Due to the lack of 3 "-5" exonuclease activity, the large fragment of Bsu DNA polymerase cannot cleave the 3 "unpaired protruding end, making it unsuitable for generating a flat end.
2. At 25 ℃, the large fragment of Bsu DNA polymerase retains 50% of its activity, which is twice that of the Klenow fragment (3 "-5" exo -) at the same temperature.
3. This reagent is only used for research and development or production, and is strictly prohibited from being used in human or animal experiments.