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Bst 2.0 Pro DNA Polymerase

Product Number: BS06

Shipping and Storage

Store at -30 ~ -15 ℃ and transport at ≤ 0 ℃.

Components

Component	BS06 1600U	BS06 8000U
Bst 2.0 Pro DNA Polymerase (8 U/μl)[1)]	200 μl	1 ml
10 × IsothermalAmp Buffer	500 μl	3×1 ml
$MgSO_4$ (100 mM)	300 μl	2×1 ml

Note:1) Store in 10 mM Tris HCl pH 7.5, 50 mM KCl, 0.1 mM EDTA, 0.1% Triton X-100, 50% glycerol.

2)Self provided material: Reagent:dNTP Mix，FIP/BIP Primers，F3/B3 Primers，LoopF/LoopB Primers，Nuclease-free ddH2O。

Instrument: qPCR instrument, PCR instrument or water bath.

Description

Bst 2.0 Pro DNA Polymerase is a directed modification of a large fragment of Bacillus stearothermophilus DNA polymerase, which exhibits 5 '→ 3' DNA polymerase activity and strong strand displacement activity, but lacks 5 '→ 3' exonuclease activity. Bst 2.0 Pro DNA Polymerase can be used for isothermal amplification reactions, such as LAMP (Loop Mediated Isothermic Amplification), HDA (Helicate Dependent Amplification), RCA (Rolling Circle Amplification), etc. Compared with Bst 2.0 DNA Polymerase, Bst 2.0 Pro DNA Polymerase, combined with a new generation of hot start technology, can inhibit polymerase activity at temperatures below 50 ℃ and rapidly release enzyme activity above 50 ℃. It has higher amplification speed, specificity, salt resistance, and thermal stability, and supports the preparation of reaction systems at room temperature.

Source

Derived from Bacillus stearothermophilus.

Application

This product is suitable for various isothermal amplification reactions such as LAMP, HDA, RCA, etc.

Unit definition

The amount of enzyme required to add 10 nmol of dNTP to acid insoluble precipitate within 30 minutes at 65 ℃ is defined as one active unit (U).

Note

1. This product is for scientific research purposes only and shall not be used for clinical medical diagnosis or other unreasonable purposes.
2. This product is not suitable for PCR reactions.
3. The operating temperature of this product does not exceed 70 ℃.

Protocol

Taking LAMP isothermal amplification as an example

1. Take out the 10 × IsothermalAmp Buffer, thaw it on ice, vortex for 10 seconds before use, mix well, and briefly centrifuge to

collect at the bottom of the tube.

2. Prepare the reaction mixture according to the table below, and finally add the template.

Reagent	Volume	Final concentration
10×IsothermalAmp Buffer	2.5μl	1 ×
$MgSO_4$ (100mM)	1.5μl	6 mM (total 8 mM)
dNTP Mix (10mM each)	3.5μl	1.4 mM each
FIP/BIP Primers (100μM)	0.4μl each	1.6 μM each
F3/B3 Primers (100μM)	0.05μl each	0.2 μM each
LoopF/LoopB Primers (100μM)	0.2μl each	0.8 μM each
Bst 2.0 Pro DNA Polymerase (8U/μl)	1.0μl	0.32 U/μl
DNA Template	1.0-5.0μl	
Nuclease-free ddH_2O	up to 25μl	

Note: 1) According to different experiments, the Mg2+concentration can be adjusted within the range of 6-10mM.

2) If an anti pollution system needs to be prepared, dUTP can be added to a final concentration of 1.4 mM, and UDG enzyme can be added to a final concentration of 0.04 U/ μL.

3) Due to the limited amount of primers used, it is recommended to premix the primers first.

4) It is best to prepare reagents and templates in different areas to avoid contamination.

3. Vortex mixing and briefly centrifuge to collect at the bottom of the tube.

Ensure that there are no bubbles in the reaction system.

4. Add the corresponding volume of template DNA to make the total system 25 μ L.

Due to the rapid response, it is recommended to add the template at the end to ensure stable and reliable results.

5. Vortex mixing and briefly centrifuge to collect at the bottom of the tube.

6. Incubate at a constant temperature of 60-65 ℃ for 30-60 minutes.