CWBIO

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Bst 3.0 Enzyme Mix

Cat. No. : CW3324S(200 μL)
Storage Condition: -20°C

Components

Component	CW3324S 200 μL
Bst 3.0 Enzyme Mix	200 μL
10×Bst 3.0 Reaction Buffer	1.5 mL
100mM $MgSO_4$ Solution	1.5 mL

Introduction

Bst 3.0 Enzyme Mix is a mixture of Bst DNA polymerase and high-temperature reverse transcriptase. Bst DNA polymerase is a recombinase expressed and purified by E. coli with partial point mutations based on the original sequence. This product has stronger 5'→3' DNA polymerase activity, strand displacement activity, reverse transcription activity, and no 5'→3' exonuclease activity. High-temperature resistant reverse transcriptase is a new enzyme modified by genetic engineering. It has fast cDNA synthesis speed, and its thermal stability is greatly improved. It can tolerate reaction temperatures up to 60°C, which is suitable for reverse transcription reaction of RNA templates with complex secondary structure. Bst 3.0 Enzyme Mix can be applied to isothermal amplification reactions using RNA or DNA as templates (LAMP/RT-LAMP).

Intended Use

This product is suitable for RT-LAMP, LAMP, RCA, CPA and other isothermal amplification reactions.

Heat Inactivation

This product can be inactivated after incubation at 80°C for 5 min.

Protocol

The following components are mixed proportionally and incubated at 60°C for 30-60 min, and incubated at 80 °C for 5 min to inactivate.

Component	25 μL system	Final concentration
10×Bst 3.0 Reaction Buffer	2.5 μL	1× (with 2 mM $MgSO_4$)
100 mM $MgSO_4$ Solution	1.5 μL	6 mM (8 mM total)
dNTP Mix (10 mM)	3.5 μL	1.4 mM each
Primer Mix (25×)	1 μL	
Bst 3.0 Enzyme Mix	0.5-1 μL	
DNA/RNA Sample	Variable	
Sterile water	To 25 μL	
Total	25 μL	

Note:1) Primers consist of 4 or 6 (including Loop) primers, 25 × primers include: 40 μM FIP, 40 μM BIP, 5 μM F3, 5 μM B3, 10 μM LoopF, 10 μM LoopB.
2) If the reaction needs to be optimized, the Mg^{2+} concentration (4-10 mM), the amount of enzyme (0.25-1.5 μL) or the primer concentration can be adjusted.
3) Do not shake vigorously. Vigorous shaking may inactivate the enzyme.
4) After mixing, ensure that there are no bubbles in the reaction system.

This product is for scientific research only, which shall not be used for clinical diagnosis or other purposes.