



## WellStart III BST DNA polymerase

**Product Number: BS03**

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### Shipping and Storage

Store at -20°C.

### Components

Component	200µL
WellStart III Enzyme Mix	200µL
10×Bst 3.0 Reaction Buffer	1.5mL
100mM MgSO <sub>4</sub> Solution	1.5mL

### Description

WellStart III BST DNA polymerase is a hybrid enzyme containing WarmStafi Bst DNA polymerase and a thermostable reverse transcriptase. WarmStafi Bst III features modifications over Bst 3.0, eliminating nonspecific amplification during room-temperature reaction setup and eliminating the need for a separate activation step, thereby enhancing reaction specificity. The thermostable reverse transcriptase is a genetically engineered novel enzyme with significantly improved cDNA synthesis speed and thermal stability, capable of tolerating reaction temperatures up to 60°C, making it suitable for reverse transcription reactions with RNA templates possessing complex secondary structures. WellStart III BST DNA polymerase can be applied to isothermal amplification reactions (LAMP/RT-LAMP) using RNA or DNA as templates.

### Application

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

### Thermal inactivation

Incubate at 80 °C for 5 minutes to inactivate.

### Protocol

#### 1. Guidelines for Isothermal Amplification (LAMP/RT-LAMP) Operations:

Mix the following components in proportion and incubate at 60°C for 30-60 minutes, then incubate at 80°C for 5 minutes to inactivate.

Components	Volume	Final Concentration
10×Bst 3.0 Reaction Buffer	2.5µL	1 ×(containing 2mM MgSO <sub>4</sub> )
100mM MgSO <sub>4</sub> Solution	1.5µL	6mM (total 8mM)
dNTP Mix (10mM)	3.5µL	
Primer Mix (25×)	1µL	
WellStart III Enzyme Mix	0.5-1µL	
DNA /RNA Sample	Variable	Each 1.4mM
ddH <sub>2</sub> O	To 25µL	
Total volume	25µL	

### Note

1. Primers consist of 4 or 6 (including Loop) primers, with 25 primers including: 40µM FIP, 40µM BIP, 5µM F3, 5µM B3, 10µM LoopF, 10µM LoopB;



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2. To optimize the reaction, the  $Mg^{2+}$  concentration (4-10mM), enzyme amount (0.25-1.5 $\mu$ L), or primer concentration can be adjusted;
3. Do not shake vigorously, as mixing with vigorous shaking can cause enzyme inactivation;
4. Ensure that there are no bubbles in the reaction system after adding the system.