Hieff™ Bst Plus DNA Polymerase (2,000 U/μL)

Product Information,

Product name	Cat#	Size
Hieff™ Bst Plus DNA Polymerase (2,000 U/μL)	14403ES20	20,000 U
	14403ES70	200,000 U
	14403ES84	2,000,000 U
	14403ES10	10 mL
	14403ES72	200 mL

Product Description

Hieff™ Bst Plus DNA Polymerase is derived from *Thermophilic Geobacillus sp* DNA Polymerase I, lacking 5'-3' exonuclease activity. The enzyme has stronger 5'-3' DNA polymerase activity, strand displacement activity and dUTP tolerance, which is more suitable for anti-pollution isothermal amplification reactions, such as LAMP, CPA, etc.

Product Components

Component number	Components	Cat#/Size				
		14403ES20 (20,000 U)	**14403ES70 (200,000 U)**	**14403ES84 (2,000,000 U)**	**14403ES10 (10 mL)**	**14403ES72 (200 mL)**
14403	Hieff™ Bst Plus DNA Polymerase (2,000 U/μL)	10 μL	100 μL	1 mL	2× 5 mL	40× 5 mL

Applications

Suitable for a variety of isothermal amplification reactions such as LAMP, CPA, RCA, etc.

Activity Definition

1 U refers to the amount of enzyme required to incorporate 10 nmol of dNTP into the acid-insoluble precipitate in 30 min at 65°C.

Preservation Solution Components

10 mmol/L Tris-HCl, 50 mmol/L KCl, 0.1 mmol/L EDTA, 1 mmol/L DTT, 0.1% Triton X-100, 50% Glycerol, pH 7.5 @ 25°C.

Heat Inactivation

Incubation at 85°C for 5 min.

Shipping and Storage

The product is shipped with ice pack and can be stored at -20°C for 2 years. Please avoid repeated freeze-thaw.

Cautions

1. Enzymes should be stored in an ice box or on an ice bath when used, and should be stored at -20°C immediately after use.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. This product is for research use ONLY!

Protocol for LAMP

1. Recommended reaction system

Components	Volume (μL)	Final Concentration
10×Reaction Buffer	2.5	1×
100 mmol/L $MgSO_4$	0.75	3 mmol/L+2 mmol/L in buffer= 5 mmol/L
dNTP Mix (25 mmol/L each)	1.4	1.4 mmol/L each
dUTP (25 mmol/L) (optional)	1.4	1.4 mmol/L
UDGase (1 U/μL) (optional)	1	0.04 U
DNA	10 ng~1 μg	-
10×Primers	2.5	-
Hieff™ Bst Plus DNA Polymerase (2,000 U/μL)	1*	1.6 U/μL
ddH_2O	to 25	-

Note: 1. *: According to different experiments, the concentration of Hieff™ Bst Plus DNA Polymerase can be adjusted and optimized;

2. 10×Reaction Buffer：200 mmol/L Tris-HCl, 500 mmol/L KCl, 100 mmol/L $(NH_4)_2S0_4$, 20 mmol/L $MgS0_4$, 1% Tween-20, pH 8.8 @ 25℃.

3. If optimization is desired, try titrating concentration of Mg^{2+} (4–10 mmol/L final).

4. 10× Primers：16 μmol/L FIP/BIP, 2 μmol/L F3/B3, 4 μmol/L Loop F/B each.

5. Yeasen Biotech products: dNTP (Cat#10124), dUTP (Cat#10128) and UDGase (Cat#10303) can be used with this product.

2. Reaction conditions

Temperature	Time	Effect
25~37°C	5~10 min	Degradation of U-containing templates (optional)
65°C	30~60 min	Reaction
85℃	5 min	Deactivation