Bst Plus DNA Polymerase (60 U/μL，Glycerol-Free)

Product description

Bst Plus DNA Polymerase is derived from Bacillus stearothermophilus DNA Polymerase I and has been genetically engineered to eliminate its 5′→3′ exonuclease activity while retaining robust 5′→3′ DNA polymerase activity and strong strand-displacement capability. Compared with wild-type Bst DNA Polymerase, this enzyme demonstrates significant improvements in amplification speed, yield, salt tolerance, and thermostability. Additionally, it exhibits enhanced dUTP tolerance, making it highly suitable for isothermal amplification applications such as LAMP (Loop-Mediated Isothermal Amplification). This product is glycerol-free Bst Plus DNA Polymerase, ideal for lyophilized formulation development.

Specifications

Cat NO.	14413ES60 / 14413ES97 / 14413ES98
Size	12 KU / 120 KU / 1,200 KU

Components

Name	14413ES60	14413ES97	14413ES98
Bst Plus DNA Polymerase (60 U/μL，Glycerol-Free)	200 μL	2 mL	20 mL

Applications

Isothermal amplification reactions.

Unit Definition

One unit (1 U) is defined as the amount of enzyme required to incorporate 10 nmol of dNTPs into acid-insoluble material in 30 minutes at 65°C.

Heat Inactivation

85°C for 5 minutes.

Storage

Shipped at ambient temperature protected from light. Store at –20°C protected from light. Stable for 1 year.

Notes

1. For your safety and health, please wear a lab coat and disposable gloves during handling.

Instructions: LAMP Assay Using pH Indicator Method

1. Reaction Setup

Component	Volume per Reaction (μL)	Final Concentration
2.5× pH Sensitive Reaction Buffer	10	1×
1 M $MgSO_4$	0.2	—
25 mM d(A/U/G/C)TP[a]	1.4	—
UDGase	0.005	—
Glycerol-Free Reverse Transcriptase	0.075	—
Bst Plus DNA Polymerase	0.67	—
Glycerol-Free RNase Inhibitor	0.2	—
10× Primers[b]	2.5	1×
Template	10 ng – 1 μg	—
ddH_2O	Up to 25	—

[Note]: a. The recommended final concentration of the 25 mM d(A/U/G/C)TP mix is 1.2–1.4 mM.

b. 10× Primer Mix composition: 16 μM FIP/BIP, 2 μM F3/B3, and 4 μM each of Loop F/Loop B; primer ratios may be adjusted as needed.

2. Reaction Conditions

Incubate at 65°C for 30–60 minutes, followed by heat inactivation at 85°C for 5 minutes.

If using a UDG system, include a UDG digestion step (e.g., 25°C for 10 minutes) prior to amplification.